LOUISIANA WORKFORCE COMMISSION
The Department of Labor

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Software Developers, Applications

Louisiana

Summary of Job Duties

Software Developers, Applications Video - Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Detailed Job Description

Software Developers, Applications Software developers create the applications or systems that run on a computer or another device.

Source: U.S. Department of Labor Bureau of Labor Statistics

Job Zone

The section below shows the job zone information for Software Developers, Applications. Job Zone Four: Considerable Preparation Needed.

Education	Experience	Training
Most of these occupations require a four-year bachelor's degree, but some do not.	A considerable amount of work-related skill, knowledge, or experience is needed for these occupations. For example, an accountant must complete four years of college and work for several years in accounting to be considered qualified.	Employees in these occupations usually need several years of work-related experience, on-the-job training, and/or vocational training.

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Jobs Available

This section shows the number of job openings and green jobs advertised online in Louisiana for Software Developers, Applications and for the related occupational group of Computer and Mathematical Occupations on December 8, 2020 (Jobs De-duplication Level 2).

Occupation	Job Openings	Green Job Count
Software Developers, Applications ☼	50	0
Computer and Mathematical Occupations	903	17

☼ BRIGHT OUTLOOK NATIONALLY

Source: Online advertised jobs data

Monthly Job Count

This section shows the number of job openings and green jobs advertised online for Software Developers, Applications in Louisiana November, 2020 (Jobs De-duplication Level 2).

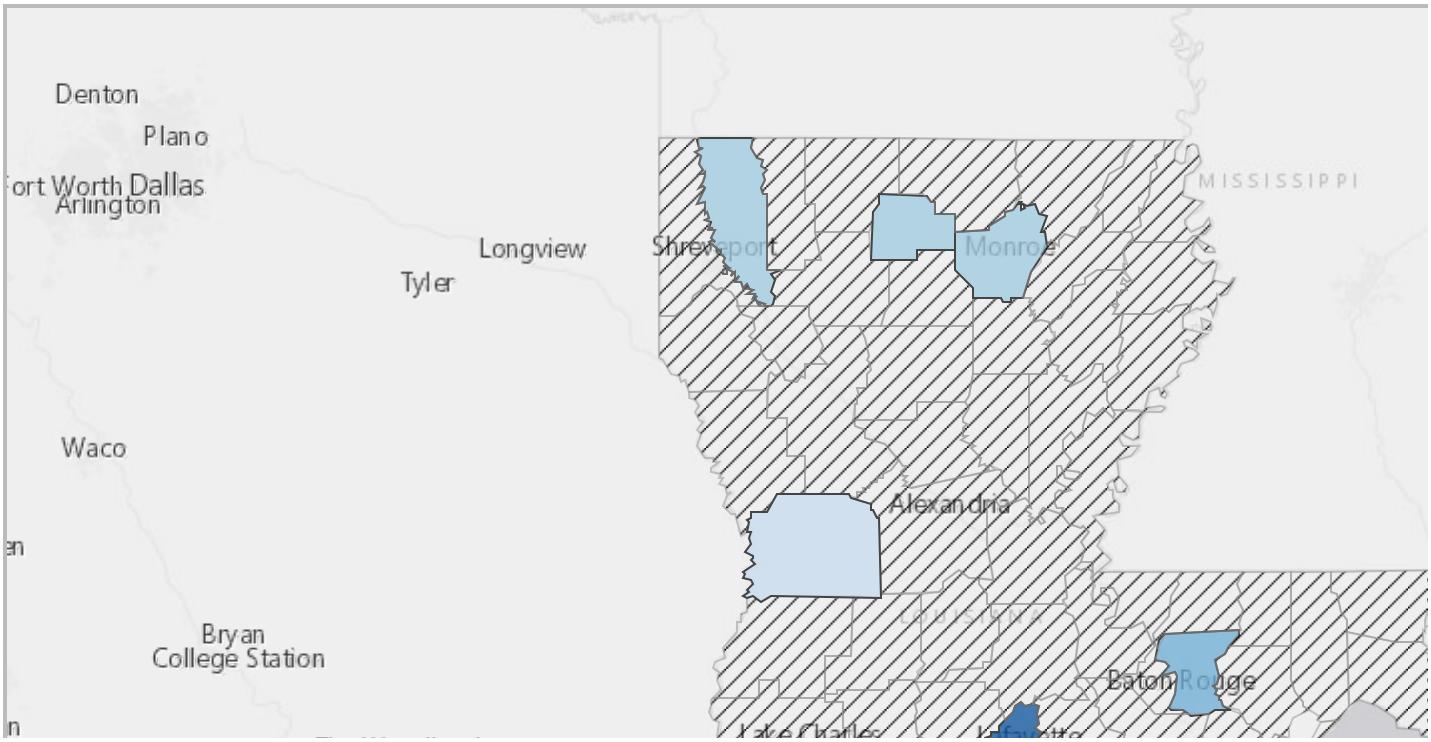
Occupation	Job Openings	Green Job Count
Software Developers, Applications ☼	88	0

☼ BRIGHT OUTLOOK NATIONALLY

Source: Online advertised jobs data

Jobs Area Distribution

This section shows the distribution of number of job openings and green jobs advertised online for Software Developers, Applications in Louisiana by parishes on December 8, 2020 (Jobs De-duplication Level 2).



Job Source: Online advertised jobs data

Jobs in Related Occupations

This section shows the number of job openings and green jobs advertised online in Louisiana for occupations related to Software Developers, Applications on December 8, 2020 (Jobs De-duplication Level 2).

Rank	Occupation	Median Wage	Job Openings	Green Job Count	*Related By
1	Computer Systems Engineers/Architects	$62,800	51	3	O*NET
2	Database Administrators	$80,017	30	2	O*NET
3	Network and Computer Systems Administrators	$64,569	62	2	O*NET
4	Logistics Engineers	$72,442	2	1	O*NET
5	Computer Systems Analysts	$68,543	75	1	O*NET

Rank	Occupation	Median Wage	Job Openings	Green Job Count	*Related By
6	Computer Programmers	$66,543	87	1	O*NET
7	Software Quality Assurance Engineers and Testers	$62,800	11	1	O*NET
8	Validation Engineers	$81,992	1	1	O*NET
9	Computer and Information Research Scientists	$90,153	2	0	O*NET
10	Information Security Analysts	$72,516	7	0	O*NET
11	Software Developers, Applications	N/A	50	0	N/A
12	Software Developers, Systems Software	$73,552	20	0	O*NET
13	Web Developers	$56,619	4	0	O*NET
14	Computer Network Architects	$73,217	6	0	O*NET
15	Materials Engineers	$107,965	3	0	O*NET
16	Petroleum Engineers	$128,991	1	0	O*NET

BRIGHT OUTLOOK NATIONALLY | GREEN OCCUPATIONS

Job Source: Online advertised jobs data
Wage Source: Labor Market Statistics, Occupational Employment Statistics Program
The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2018 survey.
*Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

Candidates Available

This section shows potential candidates in the workforce system in Louisiana for Software Developers, Applications and for the related occupational group of Computer and Mathematical Occupations on December 8, 2020.

Occupation	Candidates
Software Developers, Applications	120
Computer and Mathematical Occupations	2,259

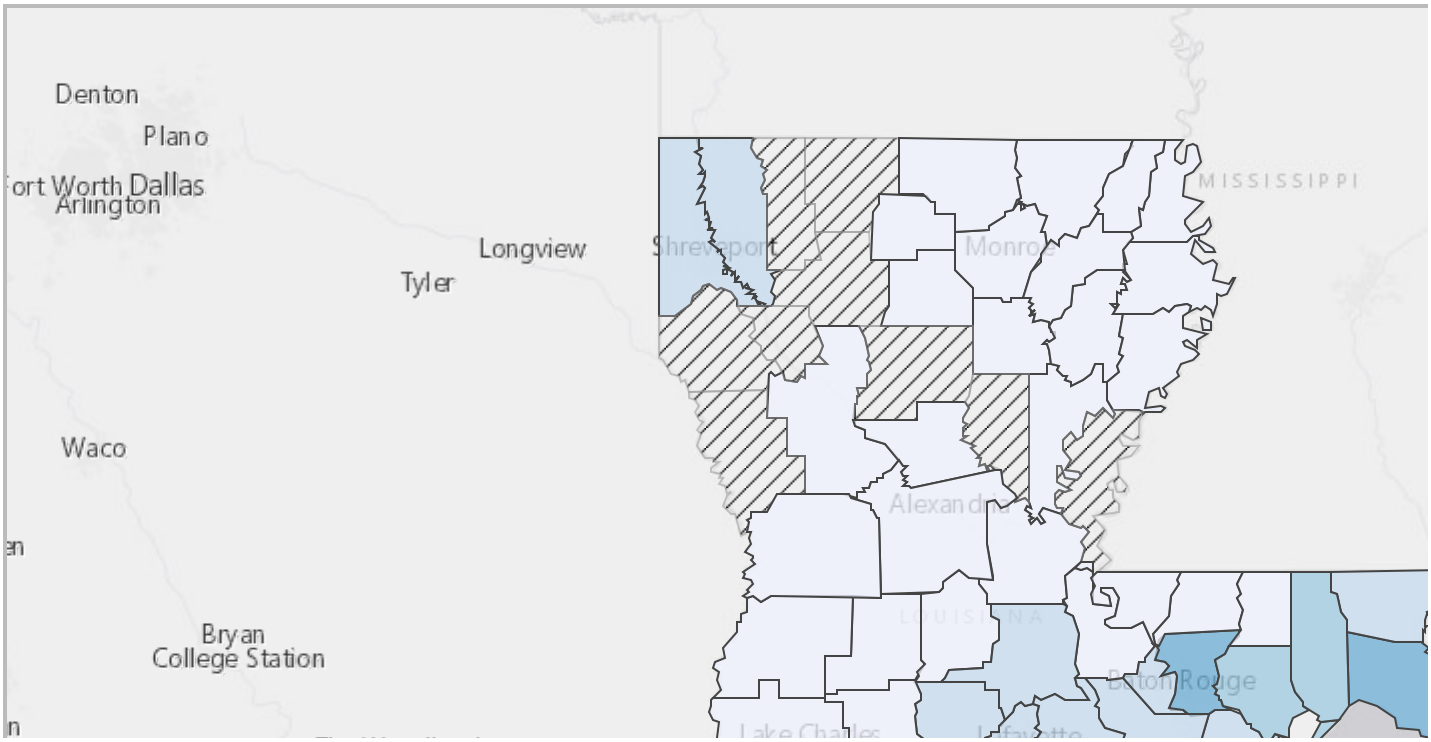
BRIGHT OUTLOOK NATIONALLY

Source: Individuals with active résumés in the workforce system.

Candidate Area Distribution

This section shows the distribution of potential candidates in the workforce system for Software Developers, Applications in Louisiana by parishes on December 8, 2020.

Rank	Area Name	Median Wage	Candidates
1	Orleans Parish	$79,753 state level wages	81
2	Jefferson Parish	$79,753 state level wages	71
3	East Baton Rouge Parish	$79,753 state level wages	65
4	St. Tammany Parish	$79,753 state level wages	62
5	St. Charles Parish	$79,753 state level wages	60
6	Livingston Parish	$79,753 state level wages	59
7	St. John the Baptist Parish	$79,753 state level wages	59
8	Tangipahoa Parish	$79,753 state level wages	57
9	Plaquemines Parish	$79,753 state level wages	56
10	St. Bernard Parish	$79,753 state level wages	56



Candidates

49 - 51	52 - 56	57 - 60	61 - 65	66 - 71	71 - 81	N/A

Candidate Source: Individuals with active résumés in the workforce system.
Wage Source: Labor Market Statistics, Occupational Employment Statistics Program
The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2018 survey.

Candidates in Related Occupations

This section shows how many potential candidates in the workforce system were looking for work in Louisiana in occupations related to Software Developers, Applications on December 8, 2020.

Rank	Occupation	Median Wage	Candidates	*Related By
1	Network and Computer Systems Administrators	$64,569	160	O*NET
2	Computer Systems Analysts	$68,543	139	O*NET
3	Software Developers, Applications	N/A	120	N/A
4	Computer Programmers	$66,543	91	O*NET

Rank	Occupation	Median Wage	Candidates	*Related By
5	Database Administrators	$80,017	91	O*NET
6	Petroleum Engineers	$128,991	79	O*NET
7	Computer Hardware Engineers	$77,939	46	O*NET
8	Web Developers	$56,619	42	O*NET
9	Computer Network Architects	$73,217	42	O*NET
10	Information Security Analysts	$72,516	37	O*NET
11	Software Quality Assurance Engineers and Testers	$62,800	37	O*NET
12	Computer and Information Research Scientists	$90,153	36	O*NET
13	Software Developers, Systems Software	$73,552	32	O*NET
14	Computer Systems Engineers/Architects	$62,800	16	O*NET
15	Geographic Information Systems Technicians	$62,800	16	O*NET
16	Materials Engineers	$107,965	13	O*NET
17	Geospatial Information Scientists and Technologists	$62,800	7	O*NET
18	Statistical Assistants	$46,956	5	O*NET
19	Web Administrators	$62,800	3	O*NET
20	Logistics Engineers	$72,442	2	O*NET
21	Nuclear Engineers	$107,021	1	O*NET
22	Validation Engineers	$81,992	1	O*NET
23	Materials Scientists	$113,534	1	O*NET

BRIGHT OUTLOOK NATIONALLY | GREEN OCCUPATIONS

Candidate Source: Individuals with active résumés in the workforce system.
Wage Source: Labor Market Statistics, Occupational Employment Statistics Program
The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2018 survey.
*Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

Jobs and Candidates Available

This section shows the number of job openings and green jobs advertised online, as well as potential candidates in the workforce system in Louisiana for Software Developers, Applications and for the related occupational group of Computer and Mathematical Occupations on December 8, 2020 (Jobs De-duplication Level 2).

Occupation	Job Openings	Green Job Count	Candidates	Candidates per Job
Software Developers, Applications	50	0	120	2.40
Computer and Mathematical Occupations	903	17	2,259	2.50

BRIGHT OUTLOOK NATIONALLY

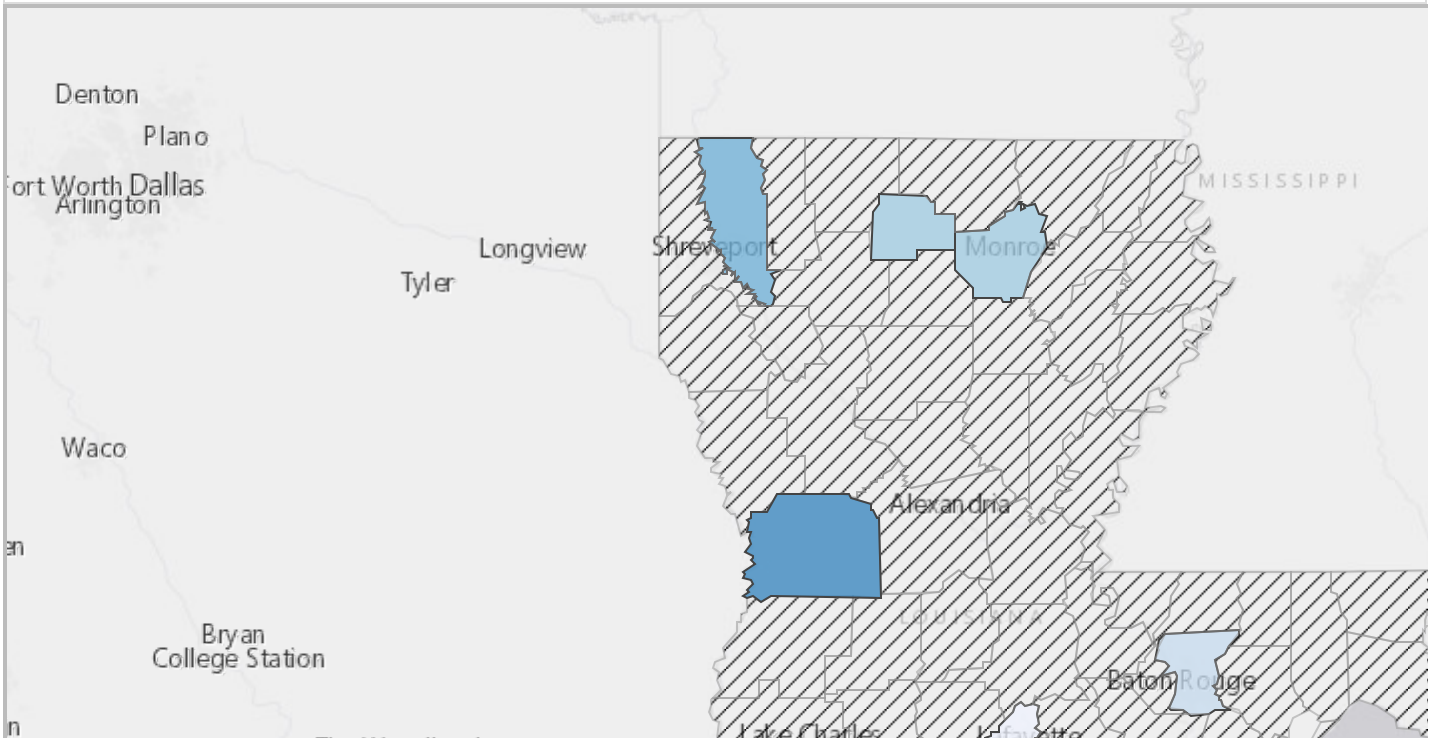
Job Source: Online advertised jobs data
Candidate Source: Individuals with active résumés in the workforce system.

Jobs and Candidates Area Distribution

This section shows the distribution of number of job openings and green jobs advertised online, as well as potential candidates in the workforce system for Software Developers, Applications in Louisiana by parishes on December 8, 2020 (Jobs De-duplication Level 2).

Rank	Area Name	Median Wage	Job Openings	Green Job Count	Candidates	Candidates per Job
1	Lafourche Parish	$79,753 state level wages	1	0	52	52.00
2	Vernon Parish	$79,753 state level wages	1	0	49	49.00
3	Bossier Parish	$79,753 state level wages	2	0	52	26.00
4	Ouachita Parish	$79,753 state level wages	2	0	49	24.50
5	Lincoln Parish	$79,753 state level wages	2	0	48	24.00
6	East Baton Rouge Parish	$79,753 state level wages	7	0	65	9.29

Rank	Area Name	Median Wage	Job Openings	Green Job Count	Candidates	Candidates per Job
7	Orleans Parish	$79,753 state level wages	17	0	81	4.76
8	Lafayette Parish	$79,753 state level wages	18	0	54	3.00
9	Acadia Parish	$79,753 state level wages	0	0	53	N/A
10	Allen Parish	$79,753 state level wages	0	0	51	N/A



Job Source: Online advertised jobs data
Candidate Source: Individuals with active résumés in the workforce system.
Wage Source: Labor Market Statistics, Occupational Employment Statistics Program

The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2018 survey.

National Supply and Demand Summary

Software Developers, Applications
Employment of software developers is projected to grow 22 percent from 2019 to 2029, much faster than the average for all occupations.

The need for new applications on smart phones and tablets will help increase the demand for software developers.

The health and medical insurance and reinsurance carriers industry will need innovative software to manage new healthcare policy enrollments and administer existing policies digitally. As the number of people who use this digital platform increases over time, demand for software developers will grow.

Software developers are likely to see new opportunities because of an increase in the number of products that use software. For example, more computer systems are being built into consumer electronics and other products, such as cell phones and appliances.

Concerns over threats to computer security could result in more investment in security software to protect computer networks and electronic infrastructure. In addition, an increase in software offered over the Internet should lower costs and allow more customization for businesses, also increasing demand for software developers.

Job Prospects

Job prospects will be best for applicants with knowledge of the most up-to-date programming tools and for those who are proficient in one or more programming languages.

Source: U.S. Department of Labor Bureau of Labor Statistics

Employers by Number of Job Openings

This section shows the employers with the highest number of job openings and green jobs advertised online for Software Developers, Applications in Louisiana on December 8, 2020 (Jobs De-duplication Level 2).

Rank	Employer Name	Job Openings	Green Job Count
1	Perficient, Inc.	5	0
2	Amazon.com, Inc.	3	0
3	Baker Hughes Company	3	0

Rank	Employer Name	Job Openings	Green Job Count
4	CACI International Inc	3	0
5	CGI Federal Inc.	3	0
6	CGI Inc.	2	0
7	Infosytech Solutions, Inc.	2	0
8	NTT DATA, Inc.	2	0
9	Planned Systems International	2	0
10	Shogun	2	0

Source: Online advertised jobs data

Advertised Job Skills

This section shows the top advertised detailed job skills found in job openings advertised online for Software Developers, Applications in Louisiana in November, 2020. (Jobs De-duplication Level 1)

Rank	Advertised Detailed Job Skill	Advertised Skill Group	Job Opening Match Count
1	Developing web based applications	Web Developer Skills	21
2	System design	Information Systems Manager Skills	17
3	Problem solving	Basic Skills	15
4	Application security	Information Systems Security Skills	14
5	Developing applications	Software Developer Skills	14
6	Time management	Basic Skills	13
7	Prioritization skills	Basic Skills	13
8	Self motivated	Basic Skills	13
9	Interpersonal skills	Interpersonal Skills	12
10	Write code	Web Developer Skills	11

Source: Online advertised jobs data

Advertised Tools and Technology

This section shows the top advertised detailed tools and technologies found in job openings advertised online for Software Developers, Applications in Louisiana in November, 2020. (Jobs De-

duplication Level 1)

Rank	Advertised Detailed Tool or Technology	Advertised Tool and Technology Group	Job Opening Match Count
1	Structured query language (SQL)	Database User Interface and Query Software	47
2	JavaScript	Web Platform Development Software	37
3	C#	Object or Component Oriented Development Software	33
4	Hypertext markup language (HTML)	Web Platform Development Software	32
5	Git	File Versioning Software	24
6	Programming languages	Development Environment Software	16
7	jQuery	Web Platform Development Software	16
8	Python	Object or Component Oriented Development Software	14
9	Spring Boot	Application Server Software	10
10	MySQL	Database Management System Software	9

Source: Online advertised jobs data

Typical Job Skills

This section shows the job skills that are related to Software Developers, Applications.

Rank	Typical Job Skills	Typical Skill Category
1	Modify software programs to improve performance	Mental Processes
2	Analyze project data to determine specifications or requirements	Mental Processes
3	Collaborate with others to determine design specifications or details	Interacting With Others
4	Assess database performance	Mental Processes

Rank	Typical Job Skills	Typical Skill Category
5	Prepare data for analysis	Work Output
6	Apply mathematical principles or statistical approaches to solve problems in scientific or applied fields	Mental Processes
7	Design software applications	Mental Processes
8	Develop testing routines or procedures	Mental Processes
9	Manage information technology projects or system activities	Interacting With Others
10	Provide technical support for software maintenance or use	Interacting With Others
11	Supervise information technology personnel	Interacting With Others
12	Develop performance metrics or standards related to information technology	Mental Processes
13	Coordinate software or hardware installation	Interacting With Others
14	Monitor computer system performance to ensure proper operation	Information Input
15	Teach others to use computer equipment or hardware	Interacting With Others
16	Document technical specifications or requirements	Work Output
17	Provide recommendations to others about computer hardware	Interacting With Others

Personal Skills

This section shows the personal skills that are most useful for Software Developers, Applications. Click on a link in the Personal Skills column to view more detailed information.

Personal Skill	Skill Description	Rank by Importance (Out of 100)
Programming	Writing computer programs for various purposes.	75

Personal Skill	Skill Description	Rank by Importance (Out of 100)
Systems Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	72
Systems Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.	72
Judgment and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	69
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	66
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	66
Operations Analysis	Analyzing needs and product requirements to create a design.	63
Speaking	Talking to others to convey information effectively.	56
Reading Comprehension	Understanding written sentences and paragraphs in work related documents.	53
Active Listening	Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.	53
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	50
Active Learning	Understanding the implications of new information for both current and future problem-solving and decision-making.	50
Learning Strategies	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	50
Monitoring	Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.	50

Personal Skill	Skill Description	Rank by Importance (Out of 100)
Technology Design	Generating or adapting equipment and technology to serve user needs.	50
Coordination	Adjusting actions in relation to others' actions.	50
Persuasion	Persuading others to change their minds or behavior.	47
Instructing	Teaching others how to do something.	47
Service Orientation	Actively looking for ways to help people.	47
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	47
Mathematics	Using mathematics to solve problems.	47
Science	Using scientific rules and methods to solve problems.	47
Quality Control Analysis	Conducting tests and inspections of products, services, or processes to evaluate quality or performance.	47
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	47
Time Management	Managing one's own time and the time of others.	47
Management of Personnel Resources	Motivating, developing, and directing people as they work, identifying the best people for the job.	47
Operation Monitoring	Watching gauges, dials, or other indicators to make sure a machine is working properly.	44
Negotiation	Bringing others together and trying to reconcile differences.	44
Operation and Control	Controlling operations of equipment or systems.	25
Management of Financial Resources	Determining how money will be spent to get the work done, and accounting for these expenditures.	25
Management of Material Resources	Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.	25

Personal Skill	Skill Description	Rank by Importance (Out of 100)
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	22
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	19
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	6
Repairing	Repairing machines or systems using the needed tools.	3

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Education Requirements

Software Developers, Applications Software Developers, Applications usually require at least a Bachelor's degree. However, not all employers may make this a hiring requirement.

Source: This information is based on the BLS Occupational Outlook Handbook (OOH).

Required Level of Education

This section shows the results of a national survey listing the most common required level of education for Software Developers, Applications.

Rank	Required Level of Education	Percentage of Respondents
1	Bachelor's Degree	79.73%
2	Master's Degree	15.64%
3	Associate's Degree (or other 2-year degree)	3.23%
4	Post-Secondary Certificate - awarded for training completed after high school (for example, in agriculture or natural resources, computer services, personal or culinary services, engineering technologies, healthcare, construction trades, mechanic and repair technologies, or precision production)	1.41%

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

On The Job Training

This section shows the results of a national survey listing the most common lengths of on the job training for Software Developers, Applications.

Rank	On The Job Training	Percentage of Respondents
1	Over 6 months, up to and including 1 year	21.56%
2	Over 1 month, up to and including 3 months	20.44%
3	Over 3 months, up to and including 6 months	19.50%
4	Anything beyond short demonstration, up to and including 1 month	16.31%
5	Over 2 years, up to and including 4 years	16.14%
6	Over 1 year, up to and including 2 years	2.26%
7	None or short demonstration	2.17%
8	Over 10 years	1.62%

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

On-Site or In-Plant Training

This section shows the results of a national survey listing the most common lengths of on-site or in-plant training for Software Developers, Applications.

Rank	On-Site or In-Plant Training	Percentage of Respondents
1	None	39.12%
2	Up to and including 1 month	20.14%
3	Over 1 month, up to and including 3 months	14.69%
4	Over 4 years, up to and including 10 years	14.02%
5	Over 3 months, up to and including 6 months	6.44%
6	Over 6 months, up to and including 1 year	1.99%
7	Over 10 years	1.62%
8	Over 2 years, up to and including 4 years	1.21%
9	Over 1 year, up to and including 2 years	0.77%

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Education Level of Jobs and Candidates

This section shows the minimum level of education requested by employers on job openings and green jobs advertised online, as well as the educational attainment of potential candidates in the workforce system that are looking for jobs as Software Developers, Applications in Louisiana on December 8, 2020. There were 14 job openings advertised online that did not specify a minimum education requirement (Jobs De-duplication Level 2).

Rank	Education Level	Job Openings	Percentage of Job Openings	Green Job Count	Percentage of Green Jobs	Potential Candidates	Percentage of Potential Candidates
1	No Minimum Education Requirement	5	10.00%	0	0.00%	0	N/A
2	Less than High School	0	N/A	0	N/A	1	0.83%
3	High School Diploma or Equivalent	4	8.00%	0	0.00%	9	7.50%
4	1 Year of College or a Technical or Vocational School	0	N/A	0	N/A	4	3.33%
5	2 Years of College or a Technical or Vocational School	0	N/A	0	N/A	11	9.17%
6	3 Years of College or a Technical or Vocational School	0	N/A	0	N/A	7	5.83%
7	Vocational School Certificate	0	N/A	0	N/A	5	4.17%
8	Associate's Degree	1	2.00%	0	0.00%	9	7.50%

Rank	Education Level	Job Openings	Percentage of Job Openings	Green Job Count	Percentage of Green Jobs	Potential Candidates	Percentage of Potential Candidates
9	Bachelor's Degree	23	46.00%	0	0.00%	56	46.67%
10	Master's Degree	2	4.00%	0	0.00%	16	13.33%
11	Doctorate Degree	1	2.00%	0	0.00%	2	1.67%
12	Not Specified	14	28.00%	0	0.00%	0	N/A

Job Source: Online advertised jobs data
Candidate Source: Individuals with active résumés in the workforce system.

Education Training Programs

This section shows the Education Training Programs for Software Developers, Applications in Louisiana.

Provider Name	Program Name	Location	Tuition	Length	WIOA Eligible
Baton Rouge Community College	Computer Science Associate of Science An associate degree	Baton Rouge, LA	$10,553	4 Semesters	✓
Baton Rouge Community College	Computer Science Associate of Science (AS)	Baton Rouge, LA	$7,648	5 Semesters	

Provider Name	Program Name	Location	Tuition	Length	WIOA Eligible
Bossier Parish Community College	CompTIA Certification Training: A+, Network+, Security+ (Vouchers Included) An industry-recognized certificate or certification, A community college certificate of completion, A measurable skills gain leading to a credential, A measurable skills gain leading to employment	Bossier City, LA	$3,995	480 Hours	✓
Bossier Parish Community College	Electronic Health Records Specialist An industry-recognized certificate or certification, A measurable skills gain leading to employment	Bossier City, LA	$2,700	11 Weeks	✓
Bossier Parish Community College	Electronic Health Records Specialist An industry-recognized certificate or certification, A measurable skills gain leading to employment	Bossier City, LA	$2,700	11 Weeks	✓
Bossier Parish Community College	IT Network Technician An industry-recognized certificate or certification, A measurable skills gain leading to employment	Bossier City, LA	$2,300	12 Weeks	✓

Provider Name	Program Name	Location	Tuition	Length	WIOA Eligible
Bossier Parish Community College	IT Network Technician An industry-recognized certificate or certification, A measurable skills gain leading to employment	Bossier City, LA	$2,300	12 Weeks	✓
Delgado Community College	Full Stack Software Developer A community college certificate of completion	New Orleans, LA	$4,995	18 Months	✓
Digital Media Institute at InterTech	Interactive Software Development A measurable skills gain leading to a credential	Shreveport, LA	$24,000	1024 Hours	
Fletcher Technical Community College	Full Stack Software Developer A community college certificate of completion, A measurable skills gain leading to employment	Schriever, LA	$4,995	12 Months	✓

Source: U.S. Department of Commerce, Bureau of the Census, Midyear Estimates

Advertised Job Certifications

This section shows the top advertised certification groups found in job openings advertised online for Software Developers, Applications in Louisiana in November, 2020. (Jobs De-duplication Level 1)

Rank	Advertised Certification Group	Advertised Certification Sub-Category	Job Opening Match Count
1	CompTIA Certifications	Information Technology - All Other	5
2	Sun Certified - Java Platform	Software	3

Rank	Advertised Certification Group	Advertised Certification Sub-Category	Job Opening Match Count
3	Scrum Alliance Certifications	Software	3
4	Project Management Institute (PMI) Certifications	Business Planning	1
5	International Association of Amusement Parks and Attractions (IAAPA)	Travel and Tourism	1
6	Scaled Agile Certifications	Software	1

Source: Online advertised jobs data

Training Program Completers

There is no data available for Software Developers, Applications in Louisiana.

National Education, Training, Licensing and Qualifications

Software Developers, Applications
Software developers usually have a bachelor's degree in computer science and strong computer programming skills.

Education

Software developers usually have a bachelor's degree, typically in computer science, software engineering, or a related field. Computer science degree programs are the most common, because they tend to cover a broad range of topics. Students should focus on classes related to building software to better prepare themselves for work in the occupation. Many students gain experience in software development by completing an internship at a software company while in college. For some positions, employers may prefer that applicants have a master's degree.

Although writing code is not their first priority, developers must have a strong background in computer programming. They usually gain this experience in school. Throughout their career, developers must keep up to date on new tools and computer languages.

Software developers also need skills related to the industry in which they work. Developers working in a bank, for example, should have knowledge of finance so that they can understand a bank's computing needs.

Advancement

Software developers can advance to become information technology (IT) project managers, also called

computer and information systems managers

, a position in which they oversee the software development process.

Important Qualities

Analytical skills.

Developers must analyze users' needs and then design software to meet those needs.

Communication skills

. Developers must be able to give clear instructions to others working on a project. They must also explain to their customers how the software works and answer any questions that arise.

Creativity.

Developers are the creative minds behind new computer software.

Detail oriented.

Developers often work on many parts of an application or system at the same time and must therefore be able to concentrate and pay attention to detail.

Interpersonal skills.

Software developers must be able to work well with others who contribute to designing, developing, and programming successful software.

Problem-solving skills.

Because developers are in charge of software from beginning to end, they must be able to solve problems that arise throughout the design process.

Source: U.S. Department of Labor Bureau of Labor Statistics

Typical Work Experience Requirements

Software Developers, Applications Employees in these occupations usually need several years of work-related experience, on-the-job training, and/or vocational training.

Related Work Experience

This section shows the results of a national survey listing the most common related work experience for Software Developers, Applications.

Rank	Related Work Experience	Percentage of Respondents
1	Over 4 years, up to and including 6 years	33.95%
2	Over 2 years, up to and including 4 years	17.44%
3	Over 6 years, up to and including 8 years	16.10%
4	None	15.10%
5	Over 10 years	11.89%
6	Over 1 year, up to and including 2 years	4.53%
7	Over 8 years, up to and including 10 years	0.98%

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Work Experience of Jobs and Candidates

This section shows the minimum required work experience requested by employers on job openings and green jobs advertised online, as well as the experience level of potential candidates in the workforce system that are looking for jobs as Software Developers, Applications in Louisiana on December 8, 2020. There were 15 job openings advertised online that did not specify a minimum experience requirement (Jobs De-duplication Level 2).

Rank	Experience	Job Openings	Percentage of Job Openings	Green Job Count	Percentage of Green Jobs	Potential Candidates	Percentage of Potential Candidates
1	Not Specified	15	30.00%	0	0.00%	0	N/A
2	Entry Level	5	10.00%	0	0.00%	0	N/A
3	Less than 1 year	2	4.00%	0	0.00%	6	5.00%
4	1 Year to 2 Years	5	10.00%	0	0.00%	9	7.50%
5	2 Years to 5 Years	15	30.00%	0	0.00%	12	10.00%
6	5 Years to 10 Years	7	14.00%	0	0.00%	14	11.67%

Rank	Experience	Job Openings	Percentage of Job Openings	Green Job Count	Percentage of Green Jobs	Potential Candidates	Percentage of Potential Candidates
7	More than 10 Years	1	2.00%	0	0.00%	79	65.83%

Job Source: Online advertised jobs data
Candidate Source: Individuals with active résumés in the workforce system.

Current Job Order Wage Information

The employer has NOT indicated a salary range for this job. The information below shows statistics on typical salaries in the local labor market for Software Developers, Applications. This data is NOT an indication of what this employer is willing to pay for this job.

Employment Wage Statistics

This section shows the estimated employment wage statistics for individuals in Louisiana employed for Software Developers, Applications in 2018.

Rate Type / Statistical Type	Q1	Entry level	Median	Experienced	Q3
Annual wage or salary	$58,510	$50,802	$79,753	$97,057	$100,923
Hourly wage	$28.13	$24.42	$38.34	$46.66	$48.52

Source: Labor Market Statistics, Occupational Employment Statistics Program
The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Entry level and Experienced wage rates represent the means of the lower 1/3 and upper 2/3 of the wage distribution, respectively. Data is from an annual survey.

Wage Rates on Advertised Jobs

This section shows a statistical breakdown of available wage data on the 50 job openings advertised online for Software Developers, Applications in Louisiana that posted a salary on December 8, 2020.

Rate Type / Statistical Type	Entry Level	Median	Experienced
Annual wage or salary	N/A	N/A	N/A
Hourly Wage	N/A	N/A	N/A

Source: Online advertised jobs data
Note: This information is based on actual job orders and is not based on a statistically valid labor market survey. Hourly wage rate calculations in this section assume a 40 hour work week.

Desired Salary of Available Candidates

This section shows the desired salary of potential candidates in the workforce system that are looking for jobs as Software Developers, Applications in Louisiana on December 8, 2020.

Rank	Desired Salary	Potential Candidates	Percentage of Potential Candidates
1	Not Specified	30	24.79%
2	$5,000 - $19,999	1	0.83%
3	$20,000 - $34,999	6	4.96%
4	$35,000 - $49,999	15	12.40%
5	$50,000 - $64,999	25	20.66%
6	$65,000 - $79,999	20	16.53%
7	$80,000 - $94,999	13	10.74%
8	$95,000 or more	11	9.09%

Source: Individuals with active résumés in the workforce system.

Wage Rates Area Distribution

There is no data available for Software Developers, Applications in Louisiana.

Wage Rates in Related Occupations

This section shows a comparison of 2018 median annual rates for occupations that are in the same occupational family as Software Developers, Applications for Louisiana.

Rank	Occupation	Median	*Related By
1	Petroleum Engineers	$128,991	O*NET
2	Materials Scientists	$113,534	O*NET
3	Materials Engineers	$107,965	O*NET
4	Nuclear Engineers	$107,021	O*NET
5	Computer and Information Research Scientists	$90,153	O*NET
6	Remote Sensing Scientists and Technologists	$85,609	O*NET
7	Validation Engineers	$81,992	O*NET

Rank	Occupation	Median	*Related By
8	Database Administrators	$80,017	O*NET
9	Computer Hardware Engineers	$77,939	O*NET
10	Software Developers, Systems Software	$73,552	O*NET
11	Computer Network Architects	$73,217	O*NET
12	Information Security Analysts	$72,516	O*NET
13	Logistics Engineers	$72,442	O*NET
14	Computer Systems Analysts	$68,543	O*NET
15	Computer Programmers	$66,543	O*NET
16	Network and Computer Systems Administrators	$64,569	O*NET
17	Software Quality Assurance Engineers and Testers	$62,800	O*NET
18	Computer Systems Engineers/Architects	$62,800	O*NET
19	Web Administrators	$62,800	O*NET
20	Geospatial Information Scientists and Technologists	$62,800	O*NET
21	Geographic Information Systems Technicians	$62,800	O*NET
22	Web Developers	$56,619	O*NET
23	Statistical Assistants	$46,956	O*NET

BRIGHT OUTLOOK NATIONALLY | GREEN OCCUPATIONS

Source: Labor Market Statistics, Occupational Employment Statistics Program
The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Entry level and Experienced wage rates represent the means of the lower 1/3 and upper 2/3 of the wage distribution, respectively. Data is from an annual survey.
*Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

Wage Rates by Industry

There is no data available for Software Developers, Applications in Louisiana.

National Earnings Data Summary

Software Developers, Applications
The median annual wage for software developers was $107,510 in May 2019. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less.

The lowest 10 percent earned less than $64,240, and the highest 10 percent earned more than $164,590.

In May 2019, the median annual wages for software developers in the top industries in which they worked were as follows:

Software publishers	$122,110
Manufacturing	116,080
Management of companies and enterprises	107,640
Computer systems design and related services	103,670
Insurance carriers and related activities	100,980

Most software developers work full time and additional work hours are common.

Source: U.S. Department of Labor Bureau of Labor Statistics

Occupational Employment & Future Employment Outlook

This section shows the long term employment projections for Software Developers, Applications in Louisiana from 2016-2026.

Occupation	2016 Estimated Employment	2026 Projected Employment	Total 2016-2026 Employment Change	2016-2026 Annual Avg. Percent Change
Software Developers, Applications	1,411	2,310	899	5.05%
Total All	2,034,986	2,203,144	168,158	0.80%

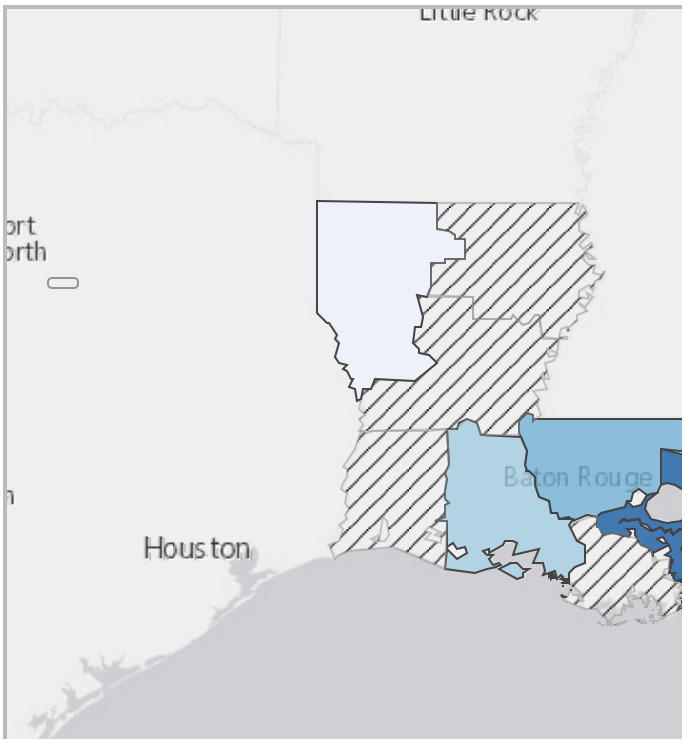
Source: Occupational Employment Projections

Employment Data Area Distribution

This section shows the distribution of the 2016 estimated employment for Software Developers, Applications in Louisiana by regional labor market area.

Rank	Area	2016 Estimated Employment
1	1st Regional Labor Market Area, New Orleans	675
2	2nd Regional Labor Market Area, Baton Rouge	361
3	4th Regional Labor Market Area, Lafayette	179
4	7th Regional Labor Market Area, Shreveport	99
*	3rd Regional Labor Market Area, Houma	Confidential
*	5th Regional Labor Market Area, Lake Charles	Confidential
*	6th Regional Labor Market Area, Alexandria	Confidential
*	8th Regional Labor Market Area, Monroe	Confidential

* Rank is suppressed for confidential data.



Source: Labor Market Statistics, Occupational Employment Projections Program

Employment Data in Related Occupations

This section shows the 2016 Estimated Employment in Louisiana for occupations related to Software Developers, Applications.

Rank	Occupation	2016 Estimated Employment	*Related By
1	Validation Engineers	3,698	O*NET
2	Network and Computer Systems Administrators	2,953	O*NET
3	Computer Systems Engineers/Architects	2,873	O*NET
4	Geographic Information Systems Technicians	2,873	O*NET

Rank	Occupation	2016 Estimated Employment	*Related By
5	Geospatial Information Scientists and Technologists	2,873	O*NET
6	Software Quality Assurance Engineers and Testers	2,873	O*NET
7	Web Administrators	2,873	O*NET
8	Computer Programmers	2,505	O*NET
9	Computer Systems Analysts	1,971	O*NET
10	Petroleum Engineers	1,645	O*NET
11	Software Developers, Systems Software	1,203	O*NET
12	Logistics Engineers	795	O*NET
13	Information Security Analysts	757	O*NET
14	Web Developers	560	O*NET
15	Database Administrators	508	O*NET
16	Computer Network Architects	246	O*NET
17	Computer Hardware Engineers	206	O*NET
18	Nuclear Engineers	142	O*NET
19	Materials Scientists	133	O*NET
20	Statistical Assistants	82	O*NET
21	Materials Engineers	56	O*NET
22	Computer and Information Research Scientists	40	O*NET
23	Remote Sensing Scientists and Technologists	35	O*NET

BRIGHT OUTLOOK NATIONALLY | GREEN OCCUPATIONS

Source: Occupational Employment Projections

*Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

Projected Annual Openings

This section shows the long term projected annual openings for Software Developers, Applications in Louisiana from 2016 to 2026.

Occupation	Total Annual Average Openings	Annual Average Openings Due to Growth	Annual Average Openings Due to Replacement
Software Developers, Applications	N/A	N/A	N/A
Computer and Mathematical	N/A	N/A	N/A

Source: Labor Market Statistics, Occupational Employment Projections Program

Projected Annual Openings Area Distribution

This section shows the distribution of the total annual average openings for Software Developers, Applications in Louisiana by regional labor market area from 2016 to 2026.

Rank	Area	Total Annual Average Openings
1	1st Regional Labor Market Area, New Orleans	N/A
2	2nd Regional Labor Market Area, Baton Rouge	N/A
3	4th Regional Labor Market Area, Lafayette	N/A
4	7th Regional Labor Market Area, Shreveport	N/A
*	3rd Regional Labor Market Area, Houma	Confidential
*	5th Regional Labor Market Area, Lake Charles	Confidential
*	6th Regional Labor Market Area, Alexandria	Confidential
*	8th Regional Labor Market Area, Monroe	Confidential

There is no total annual average openings data available for Software Developers, Applications in Louisiana.

* Rank is suppressed for confidential data.

Source: Labor Market Statistics, Occupational Employment Projections Program

Projected Annual Openings in Related Occupations

This section shows the projected total annual average openings in Louisiana for occupations related to Software Developers, Applications from 2016 to 2026.

Rank	Occupation	Total Annual Average Openings	*Related By
1	Computer and Information Research Scientists	N/A	O*NET
2	Computer Hardware Engineers	N/A	O*NET
3	Computer Network Architects	N/A	O*NET
4	Computer Programmers	N/A	O*NET
5	Computer Systems Analysts	N/A	O*NET
6	Computer Systems Engineers/Architects	N/A	O*NET
7	Database Administrators	N/A	O*NET
8	Geographic Information Systems Technicians	N/A	O*NET
9	Geospatial Information Scientists and Technologists	N/A	O*NET
10	Information Security Analysts	N/A	O*NET
11	Logistics Engineers	N/A	O*NET
12	Materials Engineers	N/A	O*NET
13	Materials Scientists	N/A	O*NET
14	Network and Computer Systems Administrators	N/A	O*NET
15	Nuclear Engineers	N/A	O*NET
16	Petroleum Engineers	N/A	O*NET
17	Remote Sensing Scientists and Technologists	N/A	O*NET
18	Software Developers, Systems Software	N/A	O*NET
19	Software Quality Assurance Engineers and Testers	N/A	O*NET
20	Statistical Assistants	N/A	O*NET
21	Validation Engineers	N/A	O*NET
22	Web Administrators	N/A	O*NET
23	Web Developers	N/A	O*NET

BRIGHT OUTLOOK NATIONALLY | GREEN OCCUPATIONS

Source: Occupational Employment Projections

Industries by Employment

This section shows the industries that employed the highest number of Software Developers, Applications in Louisiana in 2016.

Rank	Industry Title	Estimated Employment	Percent of Total Employment
1	Professional, Scientific, and Technical Services	831	58.89%
2	Administrative and Support Services	73	5.17%
3	Publishing Industries (except Internet)	39	2.76%
4	Management of Companies and Enterprises	36	2.55%
5	Self-Employed and Unpaid Family Workers, Primary Job	30	2.13%
*	Oil and Gas Extraction	Confidential	Confidential
*	Utilities	Confidential	Confidential
*	Printing and Related Support Activities	Confidential	Confidential
*	Chemical Manufacturing	Confidential	Confidential
*	Nonmetallic Mineral Product Manufacturing	Confidential	Confidential

* Rank is suppressed for confidential data.

Source: Louisiana Workforce Commission, Occupational Projections Program

Work Activities

This section shows the most common work activities required by Software Developers, Applications in order of importance. Click on a link in the Work Activity column to view more detailed information.

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
Interacting With Computers	Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.	100
Making Decisions and Solving Problems	Analyzing information and evaluating results to choose the best solution and solve problems.	80
Updating and Using Relevant Knowledge	Keeping up-to-date technically and applying new knowledge to your job.	80

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
Communicating with Supervisors, Peers, or Subordinates	Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.	79
Getting Information	Observing, receiving, and otherwise obtaining information from all relevant sources.	74
Organizing, Planning, and Prioritizing Work	Developing specific goals and plans to prioritize, organize, and accomplish your work.	74
Coordinating the Work and Activities of Others	Getting members of a group to work together to accomplish tasks.	73
Processing Information	Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.	73
Developing Objectives and Strategies	Establishing long-range objectives and specifying the strategies and actions to achieve them.	71
Thinking Creatively	Developing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions.	71
Analyzing Data or Information	Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.	70
Identifying Objects, Actions, and Events	Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.	70
Establishing and Maintaining Interpersonal Relationships	Developing constructive and cooperative working relationships with others, and maintaining them over time.	68
Monitor Processes, Materials, or Surroundings	Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.	62

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
Provide Consultation and Advice to Others	Providing guidance and expert advice to management or other groups on technical, systems-, or process-related topics.	61
Evaluating Information to Determine Compliance with Standards	Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.	59
Estimating the Quantifiable Characteristics of Products, Events, or Information	Estimating sizes, distances, and quantities; or determining time, costs, resources, or materials needed to perform a work activity.	58
Interpreting the Meaning of Information for Others	Translating or explaining what information means and how it can be used.	56
Training and Teaching Others	Identifying the educational needs of others, developing formal educational or training programs or classes, and teaching or instructing others.	55
Developing and Building Teams	Encouraging and building mutual trust, respect, and cooperation among team members.	53
Coaching and Developing Others	Identifying the developmental needs of others and coaching, mentoring, or otherwise helping others to improve their knowledge or skills.	49
Scheduling Work and Activities	Scheduling events, programs, and activities, as well as the work of others.	47
Documenting/Recording Information	Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.	46
Guiding, Directing, and Motivating Subordinates	Providing guidance and direction to subordinates, including setting performance standards and monitoring performance.	46
Judging the Qualities of Things, Services, or People	Assessing the value, importance, or quality of things or people.	43

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
Communicating with Persons Outside Organization	Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or e-mail.	40
Resolving Conflicts and Negotiating with Others	Handling complaints, settling disputes, and resolving grievances and conflicts, or otherwise negotiating with others.	38
Staffing Organizational Units	Recruiting, interviewing, selecting, hiring, and promoting employees in an organization.	38
Performing Administrative Activities	Performing day-to-day administrative tasks such as maintaining information files and processing paperwork.	32
Assisting and Caring for Others	Providing personal assistance, medical attention, emotional support, or other personal care to others such as coworkers, customers, or patients.	32
Inspecting Equipment, Structures, or Material	Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.	30
Repairing and Maintaining Electronic Equipment	Servicing, repairing, calibrating, regulating, fine-tuning, or testing machines, devices, and equipment that operate primarily on the basis of electrical or electronic (not mechanical) principles.	22
Selling or Influencing Others	Convincing others to buy merchandise/goods or to otherwise change their minds or actions.	21
Monitoring and Controlling Resources	Monitoring and controlling resources and overseeing the spending of money.	19

Tasks

This section shows the most common tasks required by Software Developers, Applications in order of importance. Click on a link in the Task column to view more detailed information.

Tasks	Task Description	Rank by Importance (Out of 100)
Modify existing software to correct errors, allow it to adapt to new hardware, or to improve its performance.	Core	81
Analyze user needs and software requirements to determine feasibility of design within time and cost constraints.	Core	79
Confer with systems analysts, engineers, programmers and others to design system and to obtain information on project limitations and capabilities, performance requirements and interfaces.	Core	73
Store, retrieve, and manipulate data for analysis of system capabilities and requirements.	Core	72
Design, develop and modify software systems, using scientific analysis and mathematical models to predict and measure outcome and consequences of design.	Core	72
Develop and direct software system testing and validation procedures, programming, and documentation.	Core	71
Supervise the work of programmers, technologists and technicians and other engineering and scientific personnel.	Core	58
Determine system performance standards.	Core	54
Coordinate software system installation and monitor equipment functioning to ensure specifications are met.	Core	51
Consult with customers about software system design and maintenance.	Supplemental	61
Analyze information to determine, recommend, and plan computer specifications and layouts, and peripheral equipment modifications.	Supplemental	52
Obtain and evaluate information on factors such as reporting formats required, costs, and security needs to determine hardware configuration.	Supplemental	49

Tasks	Task Description	Rank by Importance (Out of 100)
Train users to use new or modified equipment.	Supplemental	46
Specify power supply requirements and configuration.	Supplemental	20
Recommend purchase of equipment to control dust, temperature, and humidity in area of system installation.	Supplemental	14

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

National Working Conditions

Software Developers, Applications

Software developers held about 1.5 million jobs in 2019. The largest employers of software developers were as follows:

Computer systems design and related services	33%
Manufacturing	11
Software publishers	9
Management of companies and enterprises	5
Insurance carriers and related activities	4

In general, software development is a collaborative process, and developers work on teams with others who also contribute to designing, developing, and programming successful software. However, some developers work at home.

Work Schedules

Most software developers work full time and additional work hours are common.

Source: U.S. Department of Labor Bureau of Labor Statistics

Typical Work Conditions

This section shows the most common work conditions required by Software Developers, Applications in order of importance.

Work Condition	Work Condition Description	Rank by Importance (Out of 100)
Electronic Mail	How often do you use electronic mail in this job?	100

Work Condition	Work Condition Description	Rank by Importance (Out of 100)
Spend Time Sitting	How much does this job require sitting?	100
Face-to-Face Discussions	How often do you have to have face-to-face discussions with individuals or teams in this job?	96
Work With Work Group or Team	How important is it to work with others in a group or team in this job?	92
Importance of Being Exact or Accurate	How important is being very exact or highly accurate in performing this job?	87
Indoors, Environmentally Controlled	How often does this job require working indoors in environmentally controlled conditions?	80
Time Pressure	How often does this job require the worker to meet strict deadlines?	76
Coordinate or Lead Others	How important is it to coordinate or lead others in accomplishing work activities in this job?	75
Freedom to Make Decisions	How much decision making freedom, without supervision, does the job offer?	74
Structured versus Unstructured Work	To what extent is this job structured for the worker, rather than allowing the worker to determine tasks, priorities, and goals?	73
Level of Competition	To what extent does this job require the worker to compete or to be aware of competitive pressures?	73
Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls	How much does this job require using your hands to handle, control, or feel objects, tools or controls?	72
Contact With Others	How much does this job require the worker to be in contact with others (face-to-face, by telephone, or otherwise) in order to perform it?	70
Spend Time Making Repetitive Motions	How much does this job require making repetitive motions?	66
Telephone	How often do you have telephone conversations in this job?	66

Work Condition	Work Condition Description	Rank by Importance (Out of 100)
Importance of Repeating Same Tasks	How important is repeating the same physical activities (e.g., key entry) or mental activities (e.g., checking entries in a ledger) over and over, without stopping, to performing this job?	65
Impact of Decisions on Co-workers or Company Results	What results do your decisions usually have on other people or the image or reputation or financial resources of your employer?	54
Sounds, Noise Levels Are Distracting or Uncomfortable	How often does this job require working exposed to sounds and noise levels that are distracting or uncomfortable?	50
Physical Proximity	To what extent does this job require the worker to perform job tasks in close physical proximity to other people?	50
Consequence of Error	How serious would the result usually be if the worker made a mistake that was not readily correctable?	49
Frequency of Decision Making	How frequently is the worker required to make decisions that affect other people, the financial resources, and/or the image and reputation of the organization?	43
Responsibility for Outcomes and Results	How responsible is the worker for work outcomes and results of other workers?	43
Deal With External Customers	How important is it to work with external customers or the public in this job?	36
Public Speaking	How often do you have to perform public speaking in this job?	33
Frequency of Conflict Situations	How often are there conflict situations the employee has to face in this job?	32
Degree of Automation	How automated is the job?	27
Deal With Unpleasant or Angry People	How frequently does the worker have to deal with unpleasant, angry, or discourteous individuals as part of the job requirements?	23
Letters and Memos	How often does the job require written letters and memos?	23

Work Values and Needs

This section shows the information on the current work values for your selected occupation.

Work Value	Work Value Description	Rank By Extent (Out of 100)
Working Conditions	Occupations that satisfy this work value offer job security and good working conditions. Corresponding needs are Activity, Compensation, Independence, Security, Variety and Working Conditions.	75
Recognition	Occupations that satisfy this work value offer advancement, potential for leadership, and are often considered prestigious. Corresponding needs are Advancement, Authority, Recognition and Social Status.	72
Achievement	Occupations that satisfy this work value are results oriented and allow employees to use their strongest abilities, giving them a feeling of accomplishment. Corresponding needs are Ability Utilization and Achievement.	67
Support	Occupations that satisfy this work value offer supportive management that stands behind employees. Corresponding needs are Company Policies, Supervision: Human Relations and Supervision: Technical.	67
Independence	Occupations that satisfy this work value allow employees to work on their own and make decisions. Corresponding needs are Creativity, Responsibility and Autonomy.	50
Relationships	Occupations that satisfy this work value allow employees to provide service to others and work with co-workers in a friendly non-competitive environment. Corresponding needs are Co-workers, Moral Values and Social Service.	33

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Tools

This section shows common tools used by Software Developers, Applications.

Detailed Tool	Tool Group
Application servers	Computer servers
Computer servers	Computer servers
Desktop computers	Desktop computers
Digital cameras	Digital cameras
Flash disks	Flash memory storage card
In circuit emulators ICE	Integrated circuit testers
Logic analyzers	Integrated circuit testers
Mainframe computers	Mainframe computers
Notebook computers	Notebook computers
Personal digital assistants PDA	Personal digital assistant PDAs or organizers

Typical Technology

This section shows common technology used by Software Developers, Applications.

Detailed Technology	Technology Group
Citrix	Access software
PuTTY	Access software
Fund accounting software	Accounting software
Sage 50 Accounting	Accounting software
Tax software	Accounting software
Data analysis software	Analytical or scientific software
IBM SPSS Statistics	Analytical or scientific software
Minitab	Analytical or scientific software
SAS	Analytical or scientific software
Simulation program with integrated circuit emphasis SPICE	Analytical or scientific software
StataCorp Stata	Analytical or scientific software

Detailed Technology	Technology Group
The MathWorks MATLAB	Analytical or scientific software
Docker	Application server software
GitHub	Application server software
Oracle WebLogic Server	Application server software
Red Hat WildFly	Application server software
Spring Boot	Application server software
Veritas NetBackup	Backup or archival software
IBM Cognos Impromptu	Business intelligence and data analysis software
MicroStrategy	Business intelligence and data analysis software
Oracle Business Intelligence Enterprise Edition	Business intelligence and data analysis software
Qlik Tech QlikView	Business intelligence and data analysis software
Tableau	Business intelligence and data analysis software
IBM Domino	Communications server software
Autodesk AutoCAD	Computer aided design CAD software
Autodesk AutoCAD Civil 3D	Computer aided design CAD software
Autodesk Revit	Computer aided design CAD software
Bentley MicroStation	Computer aided design CAD software
Computer aided design and drafting software CADD	Computer aided design CAD software
Computer assisted software engineering CASE software	Computer aided design CAD software
Dassault Systemes CATIA	Computer aided design CAD software
Dassault Systemes SOLIDWORKS	Computer aided design CAD software
PTC Creo Parametric	Computer aided design CAD software
Automated installation software	Configuration management software
Chef	Configuration management software
Deployment software	Configuration management software
IBM Rational ClearCase	Configuration management software
Patch management software	Configuration management software
Perforce Helix software	Configuration management software
Puppet	Configuration management software

Detailed Technology	Technology Group
Red Hat Ansible Engine	Configuration management software
Visible Razor	Configuration management software
VMWare	Configuration management software
Atlassian JIRA	Content workflow software
Emerald Software Group Emerald Green Office	Content workflow software
Blackbaud The Raiser's Edge	Customer relationship management CRM software
Oracle Eloqua	Customer relationship management CRM software
Salesforce software	Customer relationship management CRM software
Amazon DynamoDB	Data base management system software
Amazon Kinesis	Data base management system software
Apache Cassandra	Data base management system software
Apache Flume	Data base management system software
Apache Hadoop	Data base management system software
Apache Hbase	Data base management system software
Apache Oozie	Data base management system software
Apache Pig	Data base management system software
Apache Solr	Data base management system software
Computer Associates integrated data management system CA-IDMS	Data base management system software
Data definition language DDL	Data base management system software
Data manipulation language DML	Data base management system software
Elasticsearch	Data base management system software
MongoDB	Data base management system software
NoSQL	Data base management system software
Oracle DBMS	Data base management system software
Oracle PL/SQL	Data base management system software
Relational database management software	Data base management system software
SAP Adaptive Server Enterprise	Data base management system software
Structured Query Report SQR	Data base management system software

Detailed Technology	Technology Group
Talend Big Data Integration	Data base management system software
Teradata Database	Data base management system software
Microsoft SQL Server Reporting Services	Data base reporting software
SAP Crystal Reports	Data base reporting software
ADO.NET	Data base user interface and query software
Amazon Elastic Compute Cloud EC2	Data base user interface and query software
Amazon Redshift	Data base user interface and query software
Amazon Web Services AWS software	Data base user interface and query software
Apache Hive	Data base user interface and query software
Blackboard	Data base user interface and query software
Data entry software	Data base user interface and query software
FileMaker Pro	Data base user interface and query software
IBM DB2	Data base user interface and query software
IEA Software Emerald	Data base user interface and query software
Microsoft Access	Data base user interface and query software
Microsoft SQL Server	Data base user interface and query software
MySQL	Data base user interface and query software
Oracle JDBC	Data base user interface and query software
Oracle software	Data base user interface and query software
Structured query language SQL	Data base user interface and query software
Transact-SQL	Data base user interface and query software
Google Analytics	Data mining software
Adobe Systems Adobe InDesign	Desktop publishing software
Microsoft Publisher	Desktop publishing software
A programming language APL	Development environment software
ABC Compiler	Development environment software
Ada	Development environment software
Adobe Systems Adobe ActionScript	Development environment software
Advanced business application programming ABAP	Development environment software
Algorithmic language ALGOL	Development environment software

Detailed Technology	Technology Group
American National Standards Institute ANSI C	Development environment software
Apache Ant	Development environment software
Apache Kafka	Development environment software
Apache Maven	Development environment software
AWK	Development environment software
Beginner's all-purpose symbolic instruction code BASIC	Development environment software
Bigloo Scheme	Development environment software
B-Method	Development environment software
C	Development environment software
Call-processing language CPL	Development environment software
Common business oriented language COBOL	Development environment software
Computer On-line Real-time Applications Language CORAL 66	Development environment software
Eclipse IDE	Development environment software
Embarcadero JBuilder	Development environment software
Embedded systems development software	Development environment software
Event-driven State-machines Programming	Development environment software
Formula translation/translator FORTRAN	Development environment software
Forth	Development environment software
Gambit Scheme	Development environment software
Go	Development environment software
Haskell	Development environment software
IBM Rational ClearQuest	Development environment software
IBM Rational Rose XDE Developer	Development environment software
ICON programming language	Development environment software
Integrated development environment IDE software	Development environment software
Interface definition language IDL	Development environment software
Interstate connection ICON	Development environment software
J	Development environment software

Detailed Technology	Technology Group
List processing language LISP	Development environment software
Microsoft .NET Framework	Development environment software
Microsoft Azure	Development environment software
Microsoft ESP SDK	Development environment software
Microsoft PowerShell	Development environment software
Microsoft Visual Basic	Development environment software
Microsoft Visual Basic for Applications VBA	Development environment software
Microsoft Visual Basic Scripting Edition VBScript	Development environment software
Microsoft Visual Studio	Development environment software
MUMPS M	Development environment software
National Instruments LabVIEW	Development environment software
Pascal	Development environment software
Programming language one PL/I	Development environment software
Prolog	Development environment software
Restructured extended executor REXX	Development environment software
Ruby	Development environment software
Scheme programming language	Development environment software
String oriented symbolic language SNOBOL	Development environment software
Sun Microsystems Java 2 Platform Enterprise Edition J2EE	Development environment software
Symantec Visual Cafe	Development environment software
Verilog	Development environment software
Web service definition language WDSL	Development environment software
Xcode	Development environment software
XML Path Language XPATH	Development environment software
Adobe Systems Adobe Acrobat	Document management software
Google Gmail	Electronic mail software
IBM Notes	Electronic mail software
Microsoft Exchange Server	Electronic mail software
Microsoft Outlook	Electronic mail software
Atlassian Bamboo	Enterprise application integration software

Detailed Technology	Technology Group
Enterprise application integration EAI software	Enterprise application integration software
Extensible markup language XML	Enterprise application integration software
IBM InfoSphere DataStage	Enterprise application integration software
IBM WebSphere	Enterprise application integration software
Microsoft SQL Server Integration Services SSIS	Enterprise application integration software
Oracle Fusion Middleware	Enterprise application integration software
SAP Netweaver	Enterprise application integration software
Microsoft Dynamics	Enterprise resource planning ERP software
Microsoft Dynamics GP	Enterprise resource planning ERP software
NetSuite ERP	Enterprise resource planning ERP software
Oracle Fusion Applications	Enterprise resource planning ERP software
Oracle Hyperion	Enterprise resource planning ERP software
Oracle JD Edwards EnterpriseOne	Enterprise resource planning ERP software
Oracle PeopleSoft	Enterprise resource planning ERP software
Oracle PeopleSoft Financials	Enterprise resource planning ERP software
SAP	Enterprise resource planning ERP software
SAP Business Objects	Enterprise resource planning ERP software
IBM Power Systems software	Enterprise system management software
Splunk Enterprise	Enterprise system management software
Ansible software	Expert system software
Apache Subversion SVN	File versioning software
Git	File versioning software
Version control software	File versioning software
Delphi Technology	Financial analysis software
Oracle E-Business Suite Financials	Financial analysis software
Graphical user interface GUI builder software	Graphical user interface development software
Salesforce Visualforce	Graphical user interface development software
Adobe Systems Adobe Creative Cloud	Graphics or photo imaging software
Adobe Systems Adobe Fireworks	Graphics or photo imaging software
Adobe Systems Adobe Flash	Graphics or photo imaging software
Adobe Systems Adobe Illustrator	Graphics or photo imaging software

Detailed Technology	Technology Group
Adobe Systems Adobe Photoshop	Graphics or photo imaging software
GNU Image Manipulation Program GIMP	Graphics or photo imaging software
Microsoft Visio	Graphics or photo imaging software
SmugMug Flickr	Graphics or photo imaging software
Trimble SketchUp Pro	Graphics or photo imaging software
ADP Workforce Now	Human resources software
Human resource management software HRMS	Human resources software
Oracle Taleo	Human resources software
Supervisory control and data acquisition SCADA software	Industrial control software
Apache Avro	Information retrieval or search software
LexisNexis	Information retrieval or search software
Voice over internet protocol VoiP system software	Internet protocol IP multimedia subsystem software
ESRI ArcGIS software	Map creation software
Geographic information system GIS software	Map creation software
Epic Systems	Medical software
Healthcare common procedure coding system HCPCS	Medical software
Medical procedure coding software	Medical software
MEDITECH software	Medical software
CA Erwin Data Modeler	Metadata management software
Talend Data Fabric	Metadata management software
Nagios	Network monitoring software
Wireshark	Network monitoring software
Virtual private networking VPN software	Network security and virtual private network VPN equipment software
ABC: the AspectBench Compiler for AspectJ	Object or component oriented development software
Apache Groovy	Object or component oriented development software
Apache Spark	Object or component oriented development software

Detailed Technology	Technology Group
C#	Object or component oriented development software
C++	Object or component oriented development software
Collaborative Application Markup Language CAML	Object or component oriented development software
Common Lisp Object System CLOS	Object or component oriented development software
Component object model COM software	Object or component oriented development software
Component-based Scalable Logical Architecture CSLA	Object or component oriented development software
Distributed component object model DCOM software	Object or component oriented development software
E++ pattern language	Object or component oriented development software
Eiffel	Object or component oriented development software
Embarcadero Delphi	Object or component oriented development software
Jupyter Notebook	Object or component oriented development software
Microsoft ActiveX	Object or component oriented development software
Microsoft Visual Basic.NET	Object or component oriented development software
Microsoft Visual C# .NET	Object or component oriented development software
Modula	Object or component oriented development software
Oberon	Object or component oriented development software
Objective C	Object or component oriented development software
Objective Caml	Object or component oriented development software

Detailed Technology	Technology Group
Oracle Java	Object or component oriented development software
Practical extraction and reporting language Perl	Object or component oriented development software
Python	Object or component oriented development software
R	Object or component oriented development software
SAP PowerBuilder	Object or component oriented development software
Scala	Object or component oriented development software
Self	Object or component oriented development software
Smalltalk	Object or component oriented development software
Swift	Object or component oriented development software
Hibernate ORM	Object oriented data base management software
PostgreSQL	Object oriented data base management software
Google Drive	Office suite software
LibreOffice	Office suite software
Microsoft Office	Office suite software
Apple macOS	Operating system software
Bash	Operating system software
Hewlett Packard HP-UX	Operating system software
Job control language JCL	Operating system software
KornShell	Operating system software
Linux	Operating system software
Microsoft Windows	Operating system software
Microsoft Windows Server	Operating system software
Oracle Solaris	Operating system software
Red Hat Enterprise Linux	Operating system software

Detailed Technology	Technology Group
Shell script	Operating system software
Ubuntu	Operating system software
UNIX	Operating system software
UNIX Shell	Operating system software
Migration software	Platform interconnectivity software
Apache HTTP Server	Portal server software
Google Slides	Presentation software
Microsoft PowerPoint	Presentation software
Defect tracking software	Program testing software
Dynamic analysis software	Program testing software
Functional testing software	Program testing software
Hewlett Packard LoadRunner	Program testing software
IBM Rational PurifyPlus	Program testing software
Integration testing software	Program testing software
Interoperability testing software	Program testing software
JUnit	Program testing software
Load testing software	Program testing software
Migration testing software	Program testing software
Mutation testing software	Program testing software
Recovery testing software	Program testing software
Regression testing software	Program testing software
Security testing software	Program testing software
Selenium	Program testing software
Source code editor software	Program testing software
Static analysis software	Program testing software
Stress testing software	Program testing software
System testing software	Program testing software
Test design software	Program testing software
Test implementation software	Program testing software
Unit testing software	Program testing software
Usability testing software	Program testing software

Detailed Technology	Technology Group
Confluence	Project management software
Microsoft Project	Project management software
Microsoft SharePoint	Project management software
Oracle Primavera Enterprise Project Portfolio Management	Project management software
IBM Rational Requisite Pro	Requirements analysis and system architecture software
Requirements management software	Requirements analysis and system architecture software
Unified modeling language UML	Requirements analysis and system architecture software
Google AdWords	Sales and marketing software
Marketo Marketing Automation	Sales and marketing software
Google Sheets	Spreadsheet software
Microsoft Excel	Spreadsheet software
Encryption software	Transaction security and virus protection software
McAfee	Transaction security and virus protection software
Symantec	Transaction security and virus protection software
Customer information control system CICS	Transaction server software
IBM Middleware	Transaction server software
Microsoft Internet Information Service IIS	Transaction server software
Object Management Group Object Request Broker	Transaction server software
Web server software	Transaction server software
Adobe Systems Adobe AfterEffects	Video creation and editing software
Apple Final Cut Pro	Video creation and editing software
YouTube	Video creation and editing software
Adobe Systems Adobe Dreamweaver	Web page creation and editing software
Facebook	Web page creation and editing software
LinkedIn	Web page creation and editing software
Adobe Systems Adobe Flex	Web platform development software
AJAX	Web platform development software

Detailed Technology	Technology Group
Allaire ColdFusion	Web platform development software
Apache Struts	Web platform development software
Apache Tomcat	Web platform development software
Backbone.js	Web platform development software
Cascading Style Sheets CSS	Web platform development software
Django	Web platform development software
Drupal	Web platform development software
Dynamic hypertext markup language DHTML	Web platform development software
Enterprise JavaBeans	Web platform development software
EXT js	Web platform development software
Extensible HyperText Markup Language XHTML	Web platform development software
Extensible stylesheet language transformations XSLT	Web platform development software
Google AngularJS	Web platform development software
Hypertext markup language HTML	Web platform development software
JavaScript	Web platform development software
JavaScript Object Notation JSON	Web platform development software
jQuery	Web platform development software
LAMP Stack	Web platform development software
Microsoft Active Server Pages ASP	Web platform development software
Microsoft ASP.NET	Web platform development software
Microsoft ASP.NET Core MVC	Web platform development software
Node.js	Web platform development software
Oracle JavaServer Pages JSP	Web platform development software
PHP: Hypertext Preprocessor	Web platform development software
React	Web platform development software
Ruby on Rails	Web platform development software
Spring Framework	Web platform development software
Google Docs	Word processing software
Microsoft Word	Word processing software

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Licensing Information

There is no data available for Software Developers, Applications in Louisiana.

Typical Knowledge Categories

This section shows the most common knowledge categories required by Software Developers, Applications in order of importance. Click on a link in the Knowledge Category column to view more detailed information.

Knowledge Category	Knowledge Category Description	Rank by Importance (Out of 100)
Computers and Electronics	Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.	99
Engineering and Technology	Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.	76
English Language	Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.	69
Mathematics	Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.	65
Design	Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.	58
Customer and Personal Service	Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.	51

Knowledge Category	Knowledge Category Description	Rank by Importance (Out of 100)
Telecommunications	Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.	45
Administration and Management	Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.	38
Communications and Media	Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.	29
Personnel and Human Resources	Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems.	20

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Typical Work Abilities Required

This section shows the results of a national survey listing the most common work abilities required by Software Developers, Applications in order of importance. Click on a link in the Work Ability column to view more detailed information.

Work Ability	Work Ability Description	Rank by Importance (Out of 100)
Deductive Reasoning	The ability to apply general rules to specific problems to produce answers that make sense.	72
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	72
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	72

Work Ability	Work Ability Description	Rank by Importance (Out of 100)
Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	69
Near Vision	The ability to see details at close range (within a few feet of the observer).	69
Fluency of Ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	66
Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	66
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	63
Mathematical Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	60
Written Comprehension	The ability to read and understand information and ideas presented in writing.	60
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	56
Originality	The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.	56
Flexibility of Closure	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	53
Selective Attention	The ability to concentrate on a task over a period of time without being distracted.	53
Speech Clarity	The ability to speak clearly so others can understand you.	53
Speech Recognition	The ability to identify and understand the speech of another person.	53
Written Expression	The ability to communicate information and ideas in writing so others will understand.	53
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	50

Work Ability	Work Ability Description	Rank by Importance (Out of 100)
Perceptual Speed	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	47
Speed of Closure	The ability to quickly make sense of, combine, and organize information into meaningful patterns.	44
Visualization	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	41
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.	38
Memorization	The ability to remember information such as words, numbers, pictures, and procedures.	38
Time Sharing	The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).	38
Far Vision	The ability to see details at a distance.	31
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	28
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	25
Auditory Attention	The ability to focus on a single source of sound in the presence of other distracting sounds.	25
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	25
Hearing Sensitivity	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	25
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	25

Work Ability	Work Ability Description	Rank by Importance (Out of 100)
Depth Perception	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	19
Trunk Strength	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	13
Wrist-Finger Speed	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	10
Dynamic Strength	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	3

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Work Interests

This section shows the results of a national survey listing the most common work interests for Software Developers, Applications in order of importance.

Work Interest	Work Interest Description	Rank by Importance (Out of 100)
Investigative	Investigative occupations frequently involve working with ideas, and require an extensive amount of thinking. These occupations can involve searching for facts and figuring out problems mentally.	95
Realistic	Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside, and do not involve a lot of paperwork or working closely with others.	67
Conventional	Conventional occupations frequently involve following set procedures and routines. These occupations can include working with data and details more than with ideas. Usually there is a clear line of authority to follow.	61

Work Interest	Work Interest Description	Rank by Importance (Out of 100)
Enterprising	Enterprising occupations frequently involve starting up and carrying out projects. These occupations can involve leading people and making many decisions. Sometimes they require risk taking and often deal with business.	28

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Work Styles

This section shows the most common work styles required by Software Developers, Applications in order of importance. Click on a link in the Work Style column to view more detailed information.

Work Style	Work Style Description	Rank by Importance (Out of 100)
Analytical Thinking	Job requires analyzing information and using logic to address work-related issues and problems.	96
Attention to Detail	Job requires being careful about detail and thorough in completing work tasks.	91
Innovation	Job requires creativity and alternative thinking to develop new ideas for and answers to work-related problems.	84
Integrity	Job requires being honest and ethical.	80
Persistence	Job requires persistence in the face of obstacles.	77
Initiative	Job requires a willingness to take on responsibilities and challenges.	77
Dependability	Job requires being reliable, responsible, and dependable, and fulfilling obligations.	77
Achievement/Effort	Job requires establishing and maintaining personally challenging achievement goals and exerting effort toward mastering tasks.	77
Cooperation	Job requires being pleasant with others on the job and displaying a good-natured, cooperative attitude.	75

Work Style	Work Style Description	Rank by Importance (Out of 100)
Adaptability/Flexibility	Job requires being open to change (positive or negative) and to considerable variety in the workplace.	73
Independence	Job requires developing one's own ways of doing things, guiding oneself with little or no supervision, and depending on oneself to get things done.	73
Stress Tolerance	Job requires accepting criticism and dealing calmly and effectively with high stress situations.	61
Self Control	Job requires maintaining composure, keeping emotions in check, controlling anger, and avoiding aggressive behavior, even in very difficult situations.	57
Leadership	Job requires a willingness to lead, take charge, and offer opinions and direction.	52
Concern for Others	Job requires being sensitive to others' needs and feelings and being understanding and helpful on the job.	45
Social Orientation	Job requires preferring to work with others rather than alone, and being personally connected with others on the job.	33

Related Occupations

This section shows a list of occupations related to Software Developers, Applications. Click an occupation title to see more information about that occupation.

Rank	Related Occupations	Duties	*Related By

Rank	Related Occupations	Duties	*Related By
1	Computer Network Architects	Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and planning. May also design network and computer security measures. May research and recommend network and data communications hardware and software.	O*NET
2	Computer Programmers	Create, modify, and test the code, forms, and script that allow computer applications to run. Work from specifications drawn up by software developers or other individuals. May assist software developers by analyzing user needs and designing software solutions. May develop and write computer programs to store, locate, and retrieve specific documents, data, and information.	O*NET
3	Computer Systems Analysts	Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.	O*NET
4	Computer Systems Engineers/Architects	Design and develop solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions.	O*NET
5	Database Administrators	Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases.	O*NET
6	Geographic Information Systems Technicians	Assist scientists, technologists, or related professionals in building, maintaining, modifying, or using geographic information systems (GIS) databases. May also perform some custom application development or provide user support.	O*NET

Rank	Related Occupations	Duties	*Related By
7	Geospatial Information Scientists and Technologists	Research or develop geospatial technologies. May produce databases, perform applications programming, or coordinate projects. May specialize in areas such as agriculture, mining, health care, retail trade, urban planning, or military intelligence.	O*NET
8	Information Security Analysts	Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses.	O*NET
9	Network and Computer Systems Administrators	Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability. May monitor and test Web site performance to ensure Web sites operate correctly and without interruption. May assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software. May supervise computer user support specialists and computer network support specialists. May administer network security measures.	O*NET
10	Software Developers, Systems Software	Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications. Set operational specifications and formulate and analyze software requirements. May design embedded systems software. Apply principles and techniques of computer science, engineering, and mathematical analysis.	O*NET
11	Software Quality Assurance Engineers and Testers	Develop and execute software test plans in order to identify software problems and their causes.	O*NET
12	Web Administrators	Manage web environment design, deployment, development and maintenance activities. Perform testing and quality assurance of web sites and web applications.	O*NET

Rank	Related Occupations	Duties	*Related By
13	Web Developers	Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content.	O*NET
14	Computer and Information Research Scientists	Conduct research into fundamental computer and information science as theorists, designers, or inventors. Develop solutions to problems in the field of computer hardware and software.	O*NET
15	Computer Hardware Engineers	Research, design, develop, or test computer or computer-related equipment for commercial, industrial, military, or scientific use. May supervise the manufacturing and installation of computer or computer-related equipment and components.	O*NET
16	Logistics Engineers	Design or analyze operational solutions for projects such as transportation optimization, network modeling, process and methods analysis, cost containment, capacity enhancement, routing and shipment optimization, or information management.	O*NET
17	Materials Engineers	Evaluate materials and develop machinery and processes to manufacture materials for use in products that must meet specialized design and performance specifications. Develop new uses for known materials. Includes those engineers working with composite materials or specializing in one type of material, such as graphite, metal and metal alloys, ceramics and glass, plastics and polymers, and naturally occurring materials. Includes metallurgists and metallurgical engineers, ceramic engineers, and welding engineers.	O*NET
18	Materials Scientists	Research and study the structures and chemical properties of various natural and synthetic or composite materials, including metals, alloys, rubber, ceramics, semiconductors, polymers, and glass. Determine ways to strengthen or combine materials or develop new materials with new or specific properties for use in a variety of products and applications. Includes glass scientists, ceramic scientists, metallurgical scientists, and polymer scientists.	O*NET

Rank	Related Occupations	Duties	*Related By
19	Nuclear Engineers	Conduct research on nuclear engineering projects or apply principles and theory of nuclear science to problems concerned with release, control, and use of nuclear energy and nuclear waste disposal.	O*NET
20	Petroleum Engineers	Devise methods to improve oil and gas extraction and production and determine the need for new or modified tool designs. Oversee drilling and offer technical advice.	O*NET
21	Remote Sensing Scientists and Technologists	Apply remote sensing principles and methods to analyze data and solve problems in areas such as natural resource management, urban planning, or homeland security. May develop new sensor systems, analytical techniques, or new applications for existing systems.	O*NET
22	Statistical Assistants	Compile and compute data according to statistical formulas for use in statistical studies. May perform actuarial computations and compile charts and graphs for use by actuaries. Includes actuarial clerks.	O*NET
23	Validation Engineers	Design or plan protocols for equipment or processes to produce products meeting internal and external purity, safety, and quality requirements.	O*NET

BRIGHT OUTLOOK NATIONALLY | GREEN OCCUPATIONS

Source: **Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

Career Ladder

This section shows the top 10 occupations and the corresponding individuals in the workforce system who were previously Software Developers, Applications and have changed their occupation over the last 5 years.

Occupation Title	Number of Individuals that Moved	Percentage of Individuals that Moved
Computer Programmers	17	20.00%
Software Developers, Systems Software	15	17.65%
Computer Systems Analysts	12	14.12%
Retail Salespersons	7	8.24%
Computer and Information Systems Managers	6	7.06%
Database Administrators	6	7.06%

Occupation Title	Number of Individuals that Moved	Percentage of Individuals that Moved
Software Quality Assurance Engineers and Testers	6	7.06%
Business Intelligence Analysts	6	7.06%
Computer Network Support Specialists	5	5.88%
Driver/Sales Workers	5	5.88%

BRIGHT OUTLOOK NATIONALLY | GREEN OCCUPATIONS

Source: Individuals with active résumés in the workforce system.

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View more occupational videos on CareerOneStop