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## Software Developers, Systems Software

Louisiana

### Summary of Job Duties

**Software Developers, Systems Software** [Video](#) - 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.

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, Systems Software** 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, Systems Software. Job Zone Four: Considerable Preparation Needed.


Education	Experience	Training

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, Systems Software 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, Systems Software 	<u>20</u>	0
Computer and Mathematical Occupations	<u>903</u>	<u>17</u>

 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, Systems Software in Louisiana November, 2020 (Jobs De-duplication Level 2).

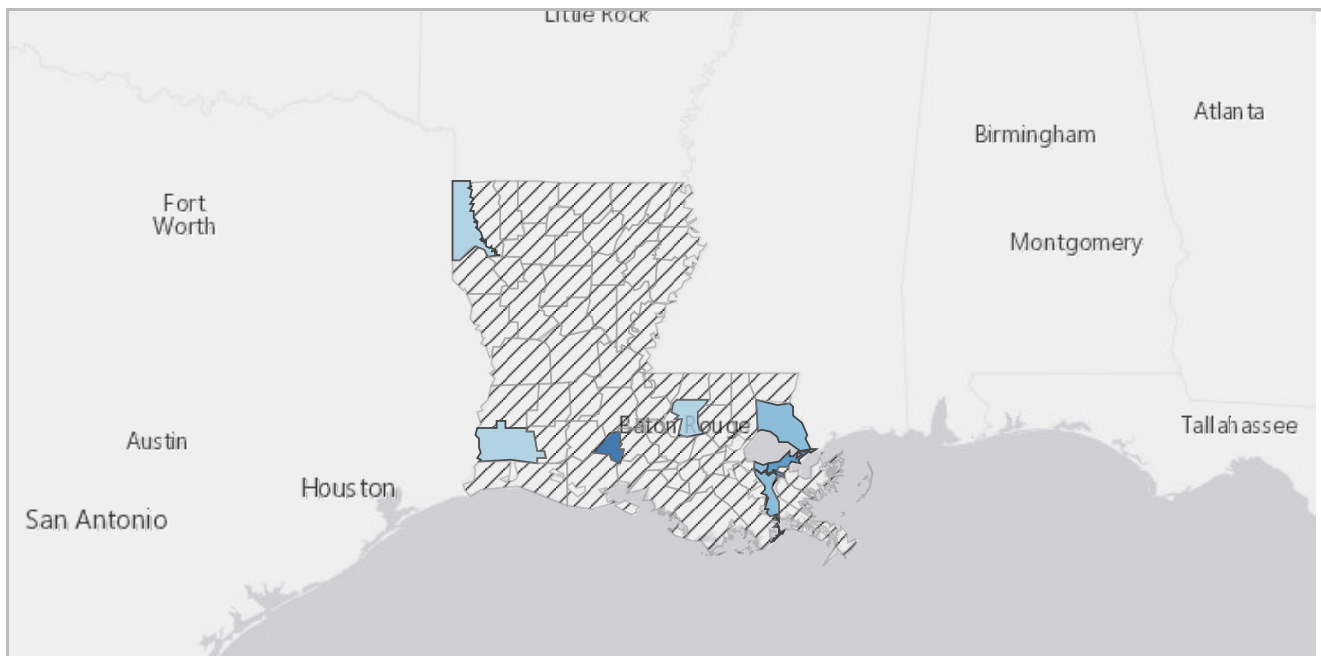
Occupation	Job Openings	Green Job Count
Software Developers, Systems Software  	30	1

 BRIGHT OUTLOOK NATIONALLY |  GREEN OCCUPATIONS

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, Systems Software in Louisiana by parishes on December 8, 2020 (Jobs De-duplication Level 2).



Job Openings



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, Systems Software on December 8, 2020 (Jobs De-duplication Level 2).

Rank	Occupation	Median Wage	Job Openings	Green Job Count	*Related By
1	<a href="#">Mechanical Engineers</a>	\$93,822	<u>35</u>	<u>7</u>	O*NET
2	<a href="#">Computer Systems Engineers/Architects</a>	\$62,800	<u>51</u>	<u>3</u>	O*NET
3	<a href="#">Electrical Engineers</a>	\$91,002	<u>32</u>	<u>3</u>	O*NET
4	<a href="#">Database Administrators</a>	\$80,017	<u>30</u>	<u>2</u>	O*NET
5	<a href="#">Network and Computer Systems Administrators</a>	\$64,569	<u>62</u>	<u>2</u>	O*NET
6	<a href="#">Computer and Information Systems Managers</a>	\$104,877	<u>12</u>	1	O*NET
7	<a href="#">Logistics Engineers</a>	\$72,442	<u>2</u>	1	O*NET
8	<a href="#">Computer Systems Analysts</a>	\$68,543	<u>75</u>	1	O*NET
9	<a href="#">Computer Programmers</a>	\$66,543	<u>87</u>	1	O*NET

Rank	Occupation	Median Wage	Job Openings	Green Job Count	*Related By
10	<a href="#">Software Quality Assurance Engineers and Testers</a> ✨	\$62,800	<u>11</u>	1	O*NET
11	<a href="#">Validation Engineers</a> 🌱	\$81,992	1	1	O*NET
12	<a href="#">Computer and Information Research Scientists</a> ✨	\$90,153	<u>2</u>	0	O*NET
13	<a href="#">Informatics Nurse Specialists</a> ✨	\$68,543	<u>3</u>	0	O*NET
14	<a href="#">Information Security Analysts</a> ✨	\$72,516	<u>7</u>	0	O*NET
15	<a href="#">Software Developers, Applications</a> ✨	\$79,753	<u>50</u>	0	O*NET
16	Software Developers, Systems Software ✨ 🌱	N/A	<u>20</u>	0	N/A
17	<a href="#">Web Developers</a> ✨	\$56,619	<u>4</u>	0	O*NET
18	<a href="#">Computer Network Architects</a>	\$73,217	<u>6</u>	0	O*NET
19	<a href="#">Computer Science Teachers, Postsecondary</a>	\$87,225	<u>1</u>	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, Systems Software and for the related occupational group of Computer and Mathematical Occupations on December 8, 2020.

Occupation	Candidates
Software Developers, Systems Software ✨	32
Computer and Mathematical Occupations	2,259

🌟 BRIGHT OUTLOOK NATIONALLY

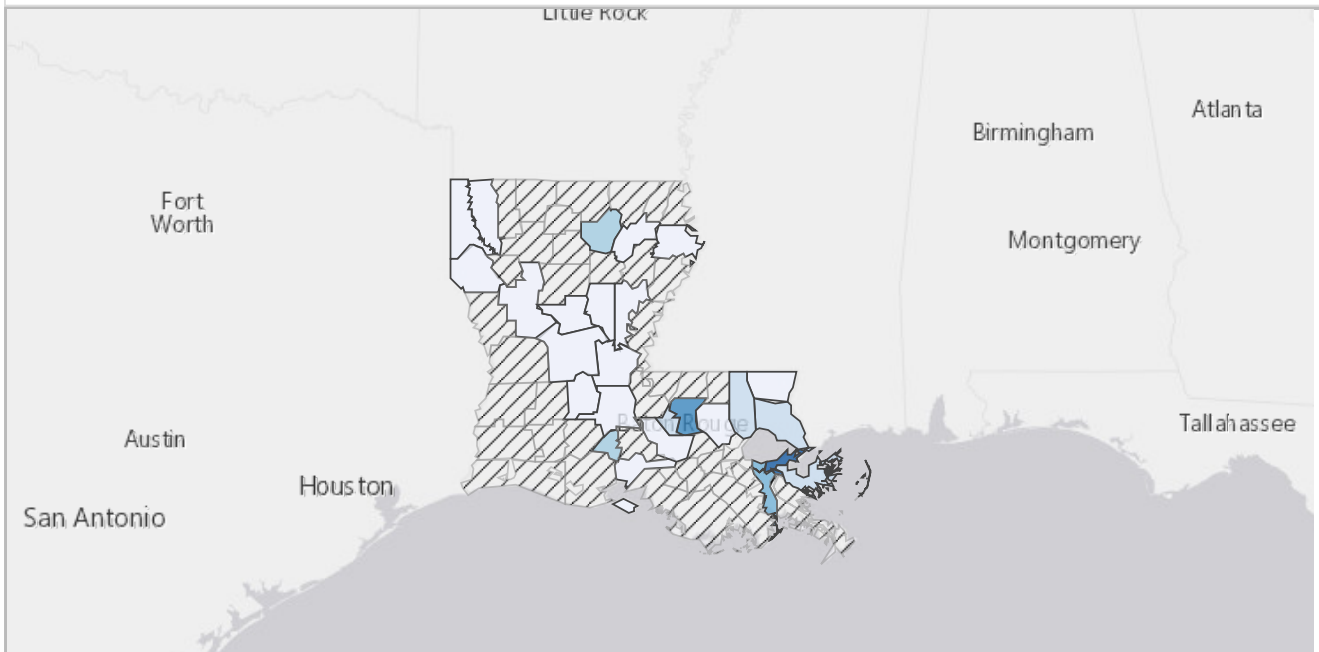
Source: Individuals with active résumés in the workforce system.

## Candidate Area Distribution

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

Rank	Area Name	Median Wage	Candidates
1	<a href="#">Orleans Parish</a>	\$73,552 state level wages	17

Rank	Area Name	Median Wage	Candidates
2	<u>East Baton Rouge Parish</u>	\$73,552 state level wages	16
3	<u>Jefferson Parish</u>	\$73,552 state level wages	15
4	<u>Lafayette Parish</u>	\$73,552 state level wages	14
5	<u>Ouachita Parish</u>	\$73,552 state level wages	14
6	<u>St. Bernard Parish</u>	\$73,552 state level wages	13
7	<u>St. Tammany Parish</u>	\$73,552 state level wages	13
8	<u>Tangipahoa Parish</u>	\$73,552 state level wages	13
9	<u>West Baton Rouge Parish</u>	\$73,552 state level wages	13
10	<u>Avoyelles Parish</u>	\$73,552 state level wages	12



Candidates



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, Systems Software on December 8, 2020.

Rank	Occupation	Median Wage	Candidates	*Related By
1	<u>Computer and Information Systems Managers</u> ✨	\$104,877	288	O*NET
2	<u>Mechanical Engineers</u> 🌱	\$93,822	198	O*NET
3	<u>Network and Computer Systems Administrators</u>	\$64,569	160	O*NET
4	<u>Computer Systems Analysts</u> ✨	\$68,543	139	O*NET
5	<u>Software Developers, Applications</u> ✨	\$79,753	120	O*NET
6	<u>Electrical Engineers</u> 🌱	\$91,002	111	O*NET
7	<u>Computer Programmers</u>	\$66,543	91	O*NET
8	<u>Database Administrators</u> ✨	\$80,017	91	O*NET
9	<u>Computer Hardware Engineers</u>	\$77,939	46	O*NET
10	<u>Web Developers</u> ✨	\$56,619	42	O*NET
11	<u>Computer Network Architects</u>	\$73,217	42	O*NET
12	<u>Information Security Analysts</u> ✨	\$72,516	37	O*NET
13	<u>Software Quality Assurance Engineers and Testers</u> ✨	\$62,800	37	O*NET
14	<u>Computer and Information Research Scientists</u> ✨	\$90,153	36	O*NET
15	Software Developers, Systems Software ✨ 🌱	N/A	32	N/A
16	<u>Computer Systems Engineers/Architects</u> ✨	\$62,800	16	O*NET
17	<u>Geographic Information Systems Technicians</u> ✨ 🌱	\$62,800	16	O*NET
18	<u>Cartographers and Photogrammetrists</u> ✨	\$71,255	12	O*NET
19	<u>Geospatial Information Scientists and Technologists</u> ✨ 🌱	\$62,800	7	O*NET
20	<u>Computer Science Teachers, Postsecondary</u>	\$87,225	5	O*NET
21	<u>Informatics Nurse Specialists</u> ✨	\$68,543	4	O*NET
22	<u>Web Administrators</u> ✨	\$62,800	3	O*NET
23	<u>Atmospheric and Space Scientists</u> ✨ 🌱	\$88,060	3	O*NET
24	<u>Logistics Engineers</u> 🌱	\$72,442	2	O*NET
25	<u>Validation Engineers</u> 🌱	\$81,992	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, Systems Software 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, Systems Software✦	<u>20</u>	0	32	1.60
Computer and Mathematical Occupations	<u>903</u>	<u>17</u>	2,259	2.50

✦ BRIGHT OUTLOOK NATIONALLY

Job Source: Online advertised jobs data

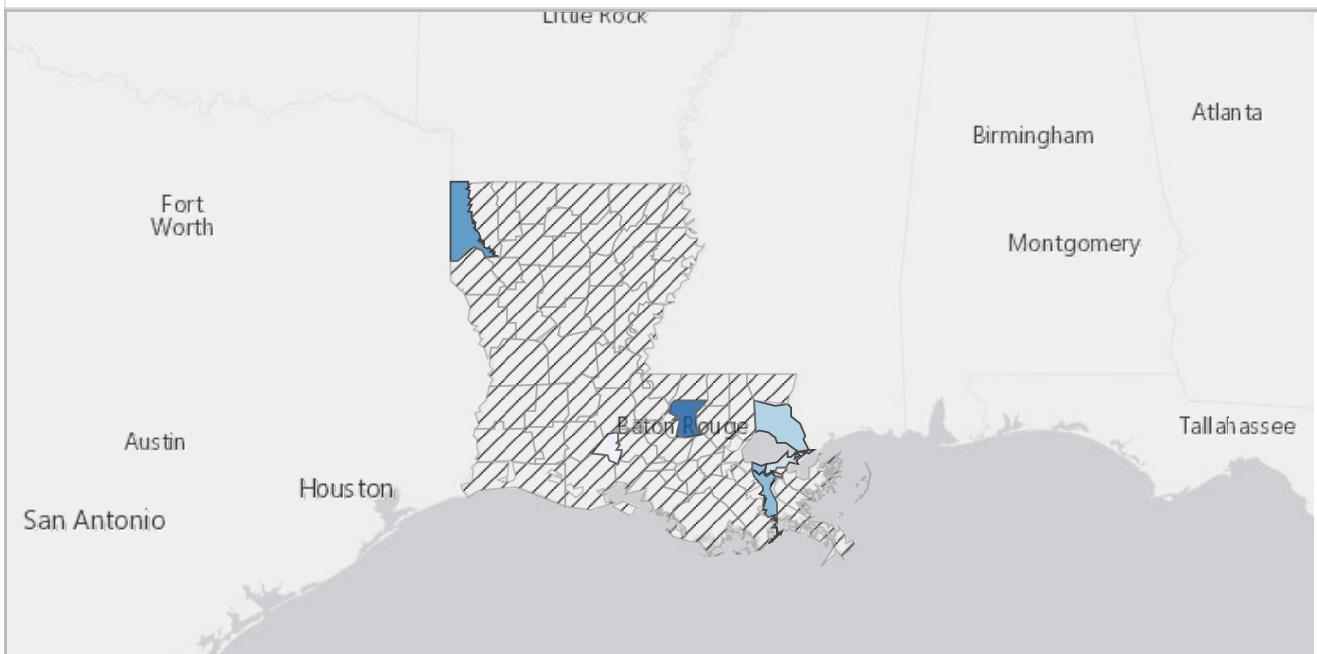
Candidate Source: Individuals with active résumés in the workforce system.

## Jobs and Candidates Area Distribution

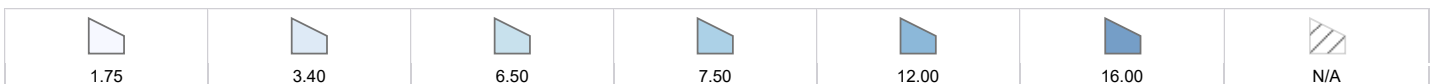
This section shows the distribution of number of job openings and green jobs advertised online, as well as potential candidates in the workforce system for Software Developers, Systems Software in Louisiana by parishes on December 8, 2020 (Jobs De-duplication Level 2).

Rank	Area Name	Median Wage	Job Openings	Green Job Count	Candidates	Candidates per Job
1	<u>East Baton Rouge Parish</u>	\$73,552 state level wages	<u>1</u>	0	16	16.00
2	<u>Caddo Parish</u>	\$73,552 state level wages	<u>1</u>	0	12	12.00
3	<u>Jefferson Parish</u>	\$73,552 state level wages	<u>2</u>	0	15	7.50
4	<u>St. Tammany Parish</u>	\$73,552 state level wages	<u>2</u>	0	13	6.50
5	<u>Orleans Parish</u>	\$73,552 state level wages	<u>5</u>	0	17	3.40
6	<u>Lafayette Parish</u>	\$73,552 state level wages	<u>8</u>	0	14	1.75

Rank	Area Name	Median Wage	Job Openings	Green Job Count	Candidates	Candidates per Job
7	<u>Avoyelles Parish</u>	\$73,552 state level wages	0	0	12	N/A
8	<u>Bossier Parish</u>	\$73,552 state level wages	0	0	12	N/A
9	<u>Calcasieu Parish</u>	\$73,552 state level wages	<u>1</u>	0	0	N/A
10	<u>Catahoula Parish</u>	\$73,552 state level wages	0	0	12	N/A



Candidates per Job



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, Systems Software

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, Systems Software in Louisiana on December 8, 2020 (Jobs De-duplication Level 2).

Rank	Employer Name	Job Openings	Green Job Count
1	Perficient, Inc.	3	0
2	CGI Federal Inc.	2	0
3	L3Harris Technologies, Inc.	2	0
4	DXC Technology	1	0
5	eNamix, Inc.	1	0
6	Lake Charles Memorial Health System	1	0
7	Levelset	1	0
8	Praeses LLC	1	0
9	Resolvit Resources, LLC.	1	0
10	Stuller, Inc.	1	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, Systems Software in Louisiana in November, 2020. (Jobs De-duplication Level 1)

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<b>Rank</b>	<b>Advertised Detailed Job Skill</b>	<b>Advertised Skill Group</b>	<b>Job Opening Match Count</b>
1	Developing web based applications	Web Developer Skills	<u>8</u>
2	Self motivated	Basic Skills	<u>6</u>
3	SQL queries	Database Administrator Skills	<u>5</u>
4	Work independently	Basic Skills	<u>5</u>
5	Database design	Database Architect Skills	<u>5</u>
6	Database schema design	Database Administrator Skills	<u>5</u>
7	Positive attitude	Interpersonal Skills	<u>5</u>
8	Problem solving	Basic Skills	<u>5</u>
9	Root cause analysis	Reliability Engineer Skills	<u>3</u>
10	Software design	Software Engineer Skills	<u>3</u>

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, Systems Software in Louisiana in November, 2020. (Jobs De-duplication Level 1)

<b>Rank</b>	<b>Advertised Detailed Tool or Technology</b>	<b>Advertised Tool and Technology Group</b>	<b>Job Opening Match Count</b>
1	C#	Object or Component Oriented Development Software	<u>17</u>
2	Structured query language (SQL)	Database User Interface and Query Software	<u>13</u>
3	Python	Object or Component Oriented Development Software	<u>12</u>
4	JavaScript	Web Platform Development Software	<u>12</u>
5	Linux software	Operating System Software	<u>11</u>
6	Hypertext markup language (HTML)	Web Platform Development Software	<u>9</u>
7	Git	File Versioning Software	<u>9</u>
8	C++	Object or Component Oriented Development Software	<u>8</u>
9	Domain name servers (DNS)	Computer Servers	<u>5</u>
10	Microsoft Visual Studio	Development Environment Software	<u>5</u>

Source: Online advertised jobs data

## Typical Job Skills

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

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<b>Rank</b>	<b>Typical Job Skills</b>	<b>Typical Skill Category</b>
1	Modify software programs to improve performance	Mental Processes
2	Monitor computer system performance to ensure proper operation	Information Input
3	Manage information technology projects or system activities	Interacting With Others
4	Develop testing routines or procedures	Mental Processes
5	Provide technical support for software maintenance or use	Interacting With Others
6	Analyze project data to determine specifications or requirements	Mental Processes
7	Assign duties or work schedules to employees	Interacting With Others
8	Supervise information technology personnel	Interacting With Others
9	Collaborate with others to resolve information technology issues	Interacting With Others
10	Collaborate with others to determine design specifications or details	Interacting With Others
11	Apply mathematical principles or statistical approaches to solve problems in scientific or applied fields	Mental Processes
12	Design software applications	Mental Processes
13	Communicate project information to others	Interacting With Others
14	Assess database performance	Mental Processes
15	Prepare data for analysis	Work Output
16	Teach others to use computer equipment or hardware	Interacting With Others
17	Coordinate software or hardware installation	Interacting With Others
18	Identify information technology project resource requirements	Mental Processes
19	Provide recommendations to others about computer hardware	Interacting With Others

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.

## Personal Skills

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

<b>Personal Skill</b>	<b>Skill Description</b>	<b>Rank by Importance (Out of 100)</b>
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<b>Personal Skill</b>	<b>Skill Description</b>	<b>Rank by Importance (Out of 100)</b>
<u>Reading Comprehension</u>	Understanding written sentences and paragraphs in work related documents.	72
<u>Active Listening</u>	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.	69
<u>Critical Thinking</u>	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	66
<u>Complex Problem Solving</u>	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	56
<u>Speaking</u>	Talking to others to convey information effectively.	56
<u>Mathematics</u>	Using mathematics to solve problems.	53
<u>Social Perceptiveness</u>	Being aware of others' reactions and understanding why they react as they do.	53
<u>Judgment and Decision Making</u>	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	53
<u>Time Management</u>	Managing one's own time and the time of others.	50
<u>Coordination</u>	Adjusting actions in relation to others' actions.	50
<u>Writing</u>	Communicating effectively in writing as appropriate for the needs of the audience.	50
<u>Monitoring</u>	Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.	50
<u>Service Orientation</u>	Actively looking for ways to help people.	47
<u>Active Learning</u>	Understanding the implications of new information for both current and future problem-solving and decision-making.	47
<u>Operations Analysis</u>	Analyzing needs and product requirements to create a design.	44
<u>Persuasion</u>	Persuading others to change their minds or behavior.	44
<u>Systems Analysis</u>	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	44
<u>Systems Evaluation</u>	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.	38
<u>Negotiation</u>	Bringing others together and trying to reconcile differences.	38

<b>Personal Skill</b>	<b>Skill Description</b>	<b>Rank by Importance (Out of 100)</b>
<u>Instructing</u>	Teaching others how to do something.	38
<u>Learning Strategies</u>	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	35
<u>Programming</u>	Writing computer programs for various purposes.	35
<u>Quality Control Analysis</u>	Conducting tests and inspections of products, services, or processes to evaluate quality or performance.	28
<u>Management of Personnel Resources</u>	Motivating, developing, and directing people as they work, identifying the best people for the job.	25
<u>Management of Material Resources</u>	Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.	22
<u>Management of Financial Resources</u>	Determining how money will be spent to get the work done, and accounting for these expenditures.	19
<u>Technology Design</u>	Generating or adapting equipment and technology to serve user needs.	16
<u>Science</u>	Using scientific rules and methods to solve problems.	16
<u>Operation Monitoring</u>	Watching gauges, dials, or other indicators to make sure a machine is working properly.	13
<u>Operation and Control</u>	Controlling operations of equipment or systems.	6
<u>Installation</u>	Installing equipment, machines, wiring, or programs to meet specifications.	6
<u>Troubleshooting</u>	Determining causes of operating errors and deciding what to do about it.	6
<u>Equipment Selection</u>	Determining the kind of tools and equipment needed to do a job.	3
<u>Repairing</u>	Repairing machines or systems using the needed tools.	0
<u>Equipment Maintenance</u>	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	0

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, Systems Software** Software Developers, Systems Software 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, Systems Software.

Rank	Required Level of Education	Percentage of Respondents
1	Bachelor's Degree	76.93%
2	Master's Degree	16.81%
3	Associate's Degree (or other 2-year degree)	3.65%
4	Post-Baccalaureate Certificate - awarded for completion of an organized program of study; designed for people who have completed a Baccalaureate degree but do not meet the requirements of academic degrees carrying the title of Master.	1.48%
5	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)	1.00%
6	Some College Courses	0.14%

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.

## 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, Systems Software.

Rank	On The Job Training	Percentage of Respondents
1	Over 1 month, up to and including 3 months	29.39%
2	Over 6 months, up to and including 1 year	26.03%
3	Over 3 months, up to and including 6 months	23.58%
4	Anything beyond short demonstration, up to and including 1 month	8.30%
5	Over 1 year, up to and including 2 years	7.97%
6	None or short demonstration	4.73%

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, Systems Software.

Rank	On-Site or In-Plant Training	Percentage of Respondents
1	Up to and including 1 month	31.61%

Rank	On-Site or In-Plant Training	Percentage of Respondents
2	Over 3 months, up to and including 6 months	23.24%
3	Over 1 month, up to and including 3 months	20.40%
4	Over 1 year, up to and including 2 years	12.92%
5	None	10.35%
6	Over 6 months, up to and including 1 year	1.49%

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, Systems Software in Louisiana on December 8, 2020. There were 9 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	High School Diploma or Equivalent	<u>1</u>	5.00%	0	0.00%	2	6.25%
2	1 Year of College or a Technical or Vocational School	0	N/A	0	N/A	4	12.50%
3	2 Years of College or a Technical or Vocational School	0	N/A	0	N/A	3	9.38%
4	3 Years of College or a Technical or Vocational School	<u>2</u>	10.00%	0	0.00%	3	9.38%
5	Vocational School Certificate	0	N/A	0	N/A	2	6.25%
6	Associate's Degree	0	N/A	0	N/A	2	6.25%
7	Bachelor's Degree	<u>8</u>	40.00%	0	0.00%	13	40.63%
8	Master's Degree	0	N/A	0	N/A	3	9.38%
9	Not Specified	<u>9</u>	45.00%	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, Systems Software in Louisiana.

<b>Provider Name</b>	<b>Program Name</b>	<b>Location</b>	<b>Tuition</b>	<b>Length</b>	<b>WIOA Eligible</b>
<u>Baton Rouge Community College</u>	<u>Computer Science Associate of Science</u> An associate degree	Baton Rouge, LA	\$10,553	4 Semesters	✔
<u>Baton Rouge Community College</u>	<u>Computer Science Associate of Science (AS)</u> <u>CompTIA Certification Training: A+, Network+, Security+ (Vouchers Included)</u> 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	Baton Rouge, LA	\$7,648	5 Semesters	
<u>Bossier Parish Community College</u>	<u>Computer Information Systems - Associate of Applied Science</u> An industry-recognized certificate or certification, A associate degree, Employment, A measurable skills gain leading to a credential	Bossier City, LA	\$3,995	480 Hours	✔
<u>Bossier Parish Community College</u>	<u>IT Network Technician</u> An industry-recognized certificate or certification, A measurable skills gain leading to employment	Bossier City, LA	\$7,942	4 Semesters	✔
<u>Bossier Parish Community College</u>	<u>IT Network Technician</u> An industry-recognized certificate or certification, A measurable skills gain leading to employment	Bossier City, LA	\$2,300	12 Weeks	✔
<u>Bossier Parish Community College</u>	<u>IT Network Technician</u> An industry-recognized certificate or certification, A measurable skills gain leading to employment	Bossier City, LA	\$2,300	12 Weeks	✔
<u>Delgado Community College</u>	<u>Full Stack Software Developer</u> A community college certificate of completion	New Orleans, LA	\$4,995	18 Months	✔
<u>Digital Media Institute at InterTech</u>	<u>Interactive Software Development</u> A measurable skills gain leading to a credential	Shreveport, LA	\$24,000	1024 Hours	



Provider Name	Program Name	Location	Tuition	Length	WIOA Eligible
<a href="#">Fletcher Technical Community College</a>	<a href="#">Full Stack Software Developer</a> A community college certificate of completion, A measurable skills gain leading to employment	Schriever, LA	\$4,995	12 Months	
<a href="#">Grambling State University</a>	<a href="#">Computer Information Systems</a> A baccalaureate degree	Grambling, LA	\$29,740	8 Semesters	

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

## Advertised Job Certifications

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

## Training Program Completers

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

## National Education, Training, Licensing and Qualifications

### Software Developers, Systems Software

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, Systems Software** 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.

## Related Work Experience

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

Rank	Related Work Experience	Percentage of Respondents
1	Over 1 year, up to and including 2 years	30.27%
2	Over 6 years, up to and including 8 years	22.03%
3	Over 10 years	14.51%
4	Over 4 years, up to and including 6 years	14.37%

Rank	Related Work Experience	Percentage of Respondents
5	Over 2 years, up to and including 4 years	9.90%
6	Over 8 years, up to and including 10 years	4.85%
7	Over 6 months, up to and including 1 year	4.02%
8	None	0.06%

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, Systems Software in Louisiana on December 8, 2020. There were 10 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	10	50.00%	0	0.00%	0	N/A
2	Less than 1 year	1	5.00%	0	0.00%	1	3.13%
3	1 Year to 2 Years	2	10.00%	0	0.00%	3	9.38%
4	2 Years to 5 Years	7	35.00%	0	0.00%	4	12.50%
5	5 Years to 10 Years	0	N/A	0	N/A	2	6.25%
6	More than 10 Years	0	N/A	0	N/A	22	68.75%

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, Systems Software. 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, Systems Software in 2018.

Rate Type / Statistical Type	Q1	Entry level	Median	Experienced	Q3
Annual wage or salary	\$59,318	\$52,374	\$73,552	\$88,105	\$91,254
Hourly wage	\$28.52	\$25.18	\$35.36	\$42.36	\$43.87

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 20 job openings advertised online for Software Developers, Systems Software 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, Systems Software in Louisiana on December 8, 2020.

Rank	Desired Salary	Potential Candidates	Percentage of Potential Candidates
1	Not Specified	7	23.33%
2	\$20,000 - \$34,999	1	3.33%
3	\$35,000 - \$49,999	1	3.33%
4	\$50,000 - \$64,999	10	33.33%
5	\$65,000 - \$79,999	7	23.33%
6	\$80,000 - \$94,999	2	6.67%
7	\$95,000 or more	2	6.67%

Source: Individuals with active résumés in the workforce system.






















## Wage Rates Area Distribution

There is no data available for Software Developers, Systems Software 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, Systems Software for Louisiana.

Rank	Occupation	Median	*Related By
1	<u>Computer and Information Systems Managers</u> 🌟	\$104,877	O*NET
2	<u>Mechanical Engineers</u> 🌿	\$93,822	O*NET

Rank	Occupation	Median	*Related By
3	<a href="#">Electrical Engineers</a> 	\$91,002	O*NET
4	<a href="#">Computer and Information Research Scientists</a> 	\$90,153	O*NET
5	<a href="#">Atmospheric and Space Scientists</a>  	\$88,060	O*NET
6	<a href="#">Computer Science Teachers, Postsecondary</a>	\$87,225	O*NET
7	<a href="#">Remote Sensing Scientists and Technologists</a> 	\$85,609	O*NET
8	<a href="#">Validation Engineers</a> 	\$81,992	O*NET
9	<a href="#">Database Administrators</a> 	\$80,017	O*NET
10	<a href="#">Software Developers, Applications</a> 	\$79,753	O*NET
11	<a href="#">Computer Hardware Engineers</a>	\$77,939	O*NET
12	<a href="#">Computer Network Architects</a>	\$73,217	O*NET
13	<a href="#">Information Security Analysts</a> 	\$72,516	O*NET
14	<a href="#">Logistics Engineers</a> 	\$72,442	O*NET
15	<a href="#">Cartographers and Photogrammetrists</a> 	\$71,255	O*NET
16	<a href="#">Computer Systems Analysts</a> 	\$68,543	O*NET
17	<a href="#">Informatics Nurse Specialists</a> 	\$68,543	O*NET
18	<a href="#">Computer Programmers</a>	\$66,543	O*NET
19	<a href="#">Network and Computer Systems Administrators</a>	\$64,569	O*NET
20	<a href="#">Software Quality Assurance Engineers and Testers</a> 	\$62,800	O*NET
21	<a href="#">Computer Systems Engineers/Architects</a> 	\$62,800	O*NET
22	<a href="#">Web Administrators</a> 	\$62,800	O*NET
23	<a href="#">Geospatial Information Scientists and Technologists</a>  	\$62,800	O*NET
24	<a href="#">Geographic Information Systems Technicians</a>  	\$62,800	O*NET
25	<a href="#">Web Developers</a> 	\$56,619	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, Systems Software in Louisiana.

## National Earnings Data Summary

### Software Developers, Systems Software

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, Systems Software 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, Systems Software	1,203	1,589	386	2.82%
Total All	2,034,986	2,203,144	168,158	0.80%

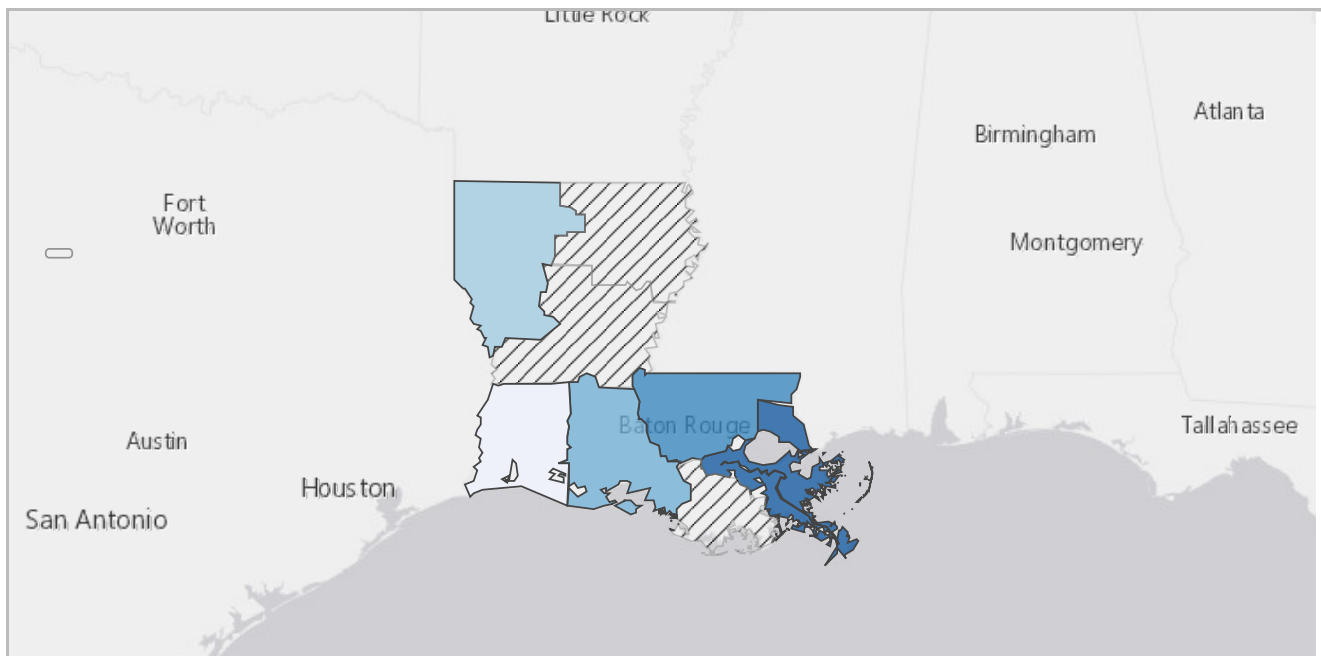
Source: Occupational Employment Projections

## Employment Data Area Distribution

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

Rank	Area	2016 Estimated Employment
1	<a href="#">1st Regional Labor Market Area, New Orleans</a>	430
2	<a href="#">2nd Regional Labor Market Area, Baton Rouge</a>	197
3	<a href="#">4th Regional Labor Market Area, Lafayette</a>	164
4	<a href="#">7th Regional Labor Market Area, Shreveport</a>	109
5	<a href="#">5th Regional Labor Market Area, Lake Charles</a>	46
*	<a href="#">3rd Regional Labor Market Area, Houma</a>	Confidential
*	<a href="#">6th Regional Labor Market Area, Alexandria</a>	Confidential
*	<a href="#">8th Regional Labor Market Area, Monroe</a>	Confidential

\* Rank is suppressed for confidential data.



2016 Estimated Employment



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, Systems Software.

Rank	Occupation	2016 Estimated Employment	*Related By
1	<a href="#">Validation Engineers</a>	3,698	O*NET
2	<a href="#">Network and Computer Systems Administrators</a>	2,953	O*NET
3	<a href="#">Computer Systems Engineers/Architects</a>	2,873	O*NET
4	<a href="#">Geographic Information Systems Technicians</a>	2,873	O*NET
5	<a href="#">Geospatial Information Scientists and Technologists</a>	2,873	O*NET
6	<a href="#">Software Quality Assurance Engineers and Testers</a>	2,873	O*NET
7	<a href="#">Web Administrators</a>	2,873	O*NET
8	<a href="#">Computer Programmers</a>	2,505	O*NET
9	<a href="#">Mechanical Engineers</a>	2,316	O*NET
10	<a href="#">Computer Systems Analysts</a>	1,971	O*NET
11	<a href="#">Informatics Nurse Specialists</a>	1,971	O*NET
12	<a href="#">Computer and Information Systems Managers</a>	1,930	O*NET

Rank	Occupation	2016 Estimated Employment	*Related By
13	<a href="#">Electrical Engineers</a>	1,557	O*NET
14	<a href="#">Software Developers, Applications</a>	1,411	O*NET
15	<a href="#">Logistics Engineers</a>	795	O*NET
16	<a href="#">Information Security Analysts</a>	757	O*NET
17	<a href="#">Web Developers</a>	560	O*NET
18	<a href="#">Database Administrators</a>	508	O*NET
19	<a href="#">Computer Network Architects</a>	246	O*NET
20	<a href="#">Computer Science Teachers, Postsecondary</a>	224	O*NET
21	<a href="#">Computer Hardware Engineers</a>	206	O*NET
22	<a href="#">Atmospheric and Space Scientists</a>	41	O*NET
23	<a href="#">Computer and Information Research Scientists</a>	40	O*NET
24	<a href="#">Remote Sensing Scientists and Technologists</a>	35	O*NET
*	<a href="#">Cartographers and Photogrammetrists</a>	Confidential	O*NET

BRIGHT OUTLOOK NATIONALLY | GREEN OCCUPATIONS

\* Rank is suppressed for confidential data.

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, Systems Software 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, Systems Software	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, Systems Software in Louisiana by regional labor market area from 2016 to 2026.

Rank	Area	Total Annual Average Openings
1	<a href="#">1st Regional Labor Market Area, New Orleans</a>	N/A
2	<a href="#">2nd Regional Labor Market Area, Baton Rouge</a>	N/A



Rank	Area	Total Annual Average Openings
3	<a href="#">4th Regional Labor Market Area, Lafayette</a>	N/A
4	<a href="#">5th Regional Labor Market Area, Lake Charles</a>	N/A
5	<a href="#">7th Regional Labor Market Area, Shreveport</a>	N/A
*	<a href="#">3rd Regional Labor Market Area, Houma</a>	Confidential
*	<a href="#">6th Regional Labor Market Area, Alexandria</a>	Confidential
*	<a href="#">8th Regional Labor Market Area, Monroe</a>	Confidential

\* Rank is suppressed for confidential data.

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

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, Systems Software from 2016 to 2026.

Rank	Occupation	Total Annual Average Openings	*Related By
1	<a href="#">Atmospheric and Space Scientists</a> 🍀 🍀	N/A	O*NET
2	<a href="#">Computer and Information Research Scientists</a> 🍀	N/A	O*NET
3	<a href="#">Computer and Information Systems Managers</a> 🍀	N/A	O*NET
4	<a href="#">Computer Hardware Engineers</a>	N/A	O*NET
5	<a href="#">Computer Network Architects</a>	N/A	O*NET
6	<a href="#">Computer Programmers</a>	N/A	O*NET
7	<a href="#">Computer Science Teachers, Postsecondary</a>	N/A	O*NET
8	<a href="#">Computer Systems Analysts</a> 🍀	N/A	O*NET
9	<a href="#">Computer Systems Engineers/Architects</a> 🍀	N/A	O*NET
10	<a href="#">Database Administrators</a> 🍀	N/A	O*NET
11	<a href="#">Electrical Engineers</a> 🍀	N/A	O*NET
12	<a href="#">Geographic Information Systems Technicians</a> 🍀 🍀	N/A	O*NET
13	<a href="#">Geospatial Information Scientists and Technologists</a> 🍀 🍀	N/A	O*NET
14	<a href="#">Informatics Nurse Specialists</a> 🍀	N/A	O*NET
15	<a href="#">Information Security Analysts</a> 🍀	N/A	O*NET
16	<a href="#">Logistics Engineers</a> 🍀	N/A	O*NET
17	<a href="#">Mechanical Engineers</a> 🍀	N/A	O*NET
18	<a href="#">Network and Computer Systems Administrators</a>	N/A	O*NET
19	<a href="#">Remote Sensing Scientists and Technologists</a> 🍀	N/A	O*NET

Rank	Occupation	Total Annual Average Openings	*Related By
20	<a href="#">Software Developers, Applications</a> ♦	N/A	O*NET
21	<a href="#">Software Quality Assurance Engineers and Testers</a> ♦	N/A	O*NET
22	<a href="#">Validation Engineers</a> 🌱	N/A	O*NET
23	<a href="#">Web Administrators</a> ♦	N/A	O*NET
24	<a href="#">Web Developers</a> ♦	N/A	O*NET
*	<a href="#">Cartographers and Photogrammetrists</a> ♦	Confidential	O*NET

♦ BRIGHT OUTLOOK NATIONALLY | 🌱 GREEN OCCUPATIONS

\* Rank is suppressed for confidential data.

Source: Occupational Employment Projections

## Industries by Employment

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

Rank	Industry Title	Estimated Employment	Percent of Total Employment
1	<a href="#">Professional, Scientific, and Technical Services</a>	473	39.32%
2	<a href="#">Telecommunications</a>	207	17.21%
3	<a href="#">Publishing Industries (except Internet)</a>	70	5.82%
4	<a href="#">Merchant Wholesalers, Durable Goods</a>	32	2.66%
5	<a href="#">Administrative and Support Services</a>	32	2.66%
6	<a href="#">Self-Employed and Unpaid Family Workers, Primary Job</a>	26	2.16%
*	<a href="#">Oil and Gas Extraction</a>	Confidential	Confidential
*	<a href="#">Paper Manufacturing</a>	Confidential	Confidential
*	<a href="#">Fabricated Metal Product Manufacturing</a>	Confidential	Confidential
*	<a href="#">Machinery Manufacturing</a>	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, Systems Software 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)
---------------	---------------------------	---------------------------------

<b>Work Activity</b>	<b>Work Activity Description</b>	<b>Rank by Importance (Out of 100)</b>
<u>Interacting With Computers</u>	Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.	97
<u>Making Decisions and Solving Problems</u>	Analyzing information and evaluating results to choose the best solution and solve problems.	87
<u>Thinking Creatively</u>	Developing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions.	77
<u>Updating and Using Relevant Knowledge</u>	Keeping up-to-date technically and applying new knowledge to your job.	76
<u>Getting Information</u>	Observing, receiving, and otherwise obtaining information from all relevant sources.	73
<u>Analyzing Data or Information</u>	Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.	71
<u>Communicating with Supervisors, Peers, or Subordinates</u>	Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.	67
<u>Organizing, Planning, and Prioritizing Work</u>	Developing specific goals and plans to prioritize, organize, and accomplish your work.	66
<u>Processing Information</u>	Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.	64
<u>Identifying Objects, Actions, and Events</u>	Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.	60
<u>Developing Objectives and Strategies</u>	Establishing long-range objectives and specifying the strategies and actions to achieve them.	56
<u>Documenting/Recording Information</u>	Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.	54
<u>Establishing and Maintaining Interpersonal Relationships</u>	Developing constructive and cooperative working relationships with others, and maintaining them over time.	48
<u>Provide Consultation and Advice to Others</u>	Providing guidance and expert advice to management or other groups on technical, systems-, or process-related topics.	48
<u>Interpreting the Meaning of Information for Others</u>	Translating or explaining what information means and how it can be used.	47

<b>Work Activity</b>	<b>Work Activity Description</b>	<b>Rank by Importance (Out of 100)</b>
<u>Evaluating Information to Determine Compliance with Standards</u>	Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.	46
<u>Scheduling Work and Activities</u>	Scheduling events, programs, and activities, as well as the work of others.	43
<u>Coaching and Developing Others</u>	Identifying the developmental needs of others and coaching, mentoring, or otherwise helping others to improve their knowledge or skills.	40
<u>Coordinating the Work and Activities of Others</u>	Getting members of a group to work together to accomplish tasks.	40
<u>Estimating the Quantifiable Characteristics of Products, Events, or Information</u>	Estimating sizes, distances, and quantities; or determining time, costs, resources, or materials needed to perform a work activity.	39
<u>Communicating with Persons Outside Organization</u>	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.	38
<u>Developing and Building Teams</u>	Encouraging and building mutual trust, respect, and cooperation among team members.	38
<u>Training and Teaching Others</u>	Identifying the educational needs of others, developing formal educational or training programs or classes, and teaching or instructing others.	36
<u>Monitor Processes, Materials, or Surroundings</u>	Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.	35
<u>Judging the Qualities of Things, Services, or People</u>	Assessing the value, importance, or quality of things or people.	31
<u>Performing Administrative Activities</u>	Performing day-to-day administrative tasks such as maintaining information files and processing paperwork.	29
<u>Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment</u>	Providing documentation, detailed instructions, drawings, or specifications to tell others about how devices, parts, equipment, or structures are to be fabricated, constructed, assembled, modified, maintained, or used.	29
<u>Guiding, Directing, and Motivating Subordinates</u>	Providing guidance and direction to subordinates, including setting performance standards and monitoring performance.	27

<b>Work Activity</b>	<b>Work Activity Description</b>	<b>Rank by Importance (Out of 100)</b>
<a href="#"><u>Monitoring and Controlling Resources</u></a>	Monitoring and controlling resources and overseeing the spending of money.	23
<a href="#"><u>Controlling Machines and Processes</u></a>	Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).	22
<a href="#"><u>Selling or Influencing Others</u></a>	Convincing others to buy merchandise/goods or to otherwise change their minds or actions.	22
<a href="#"><u>Inspecting Equipment, Structures, or Material</u></a>	Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.	21
<a href="#"><u>Assisting and Caring for Others</u></a>	Providing personal assistance, medical attention, emotional support, or other personal care to others such as coworkers, customers, or patients.	21
<a href="#"><u>Repairing and Maintaining Electronic Equipment</u></a>	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.	19

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.

## Tasks

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

<b>Tasks</b>	<b>Task Description</b>	<b>Rank by Importance (Out of 100)</b>
<a href="#"><u>Modify existing software to correct errors, to adapt it to new hardware, or to upgrade interfaces and improve performance.</u></a>	Core	85
<a href="#"><u>Develop or direct software system testing or validation procedures.</u></a>	Core	74
<a href="#"><u>Direct software programming and development of documentation.</u></a>	Core	74
<a href="#"><u>Consult with customers or other departments on project status, proposals, or technical issues, such as software system design or maintenance.</u></a>	Core	72
<a href="#"><u>Analyze information to determine, recommend, and plan installation of a new system or modification of an existing system.</u></a>	Core	65
<a href="#"><u>Consult with engineering staff to evaluate interface between hardware and software, develop specifications and performance requirements, or resolve customer problems.</u></a>	Core	63

Tasks	Task Description	Rank by Importance (Out of 100)
<u>Design or develop software systems, using scientific analysis and mathematical models to predict and measure outcome and consequences of design.</u>	Core	63
<u>Prepare reports or correspondence concerning project specifications, activities, or status.</u>	Core	61
<u>Confer with data processing or project managers to obtain information on limitations or capabilities for data processing projects.</u>	Core	59
<u>Store, retrieve, and manipulate data for analysis of system capabilities and requirements.</u>	Core	58
<u>Coordinate installation of software system.</u>	Core	58
<u>Monitor functioning of equipment to ensure system operates in conformance with specifications.</u>	Supplemental	80
<u>Supervise and assign work to programmers, designers, technologists, technicians, or other engineering or scientific personnel.</u>	Supplemental	63
<u>Advise customer about or perform maintenance of software system.</u>	Supplemental	62
<u>Train users to use new or modified equipment.</u>	Supplemental	58
<u>Specify power supply requirements and configuration.</u>	Supplemental	52
<u>Evaluate factors such as reporting formats required, cost constraints, or need for security restrictions to determine hardware configuration.</u>	Supplemental	49
<u>Use microcontrollers to develop control signals, implement control algorithms, or measure process variables, such as temperatures, pressures, or positions.</u>	Supplemental	49
<u>Recommend purchase of equipment to control dust, temperature, or humidity in area of system installation.</u>	Supplemental	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.

## National Working Conditions

### Software Developers, Systems Software

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, Systems Software in order of importance.

<b>Work Condition</b>	<b>Work Condition Description</b>	<b>Rank by Importance (Out of 100)</b>
Electronic Mail	How often do you use electronic mail in this job?	98
Spend Time Sitting	How much does this job require sitting?	96
Indoors, Environmentally Controlled	How often does this job require working indoors in environmentally controlled conditions?	96
Face-to-Face Discussions	How often do you have to have face-to-face discussions with individuals or teams in this job?	89
Work With Work Group or Team	How important is it to work with others in a group or team in this job?	88
Telephone	How often do you have telephone conversations in this job?	86
Importance of Being Exact or Accurate	How important is being very exact or highly accurate in performing this job?	79
Freedom to Make Decisions	How much decision making freedom, without supervision, does the job offer?	78
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?	76
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?	75
Coordinate or Lead Others	How important is it to coordinate or lead others in accomplishing work activities in this job?	71
Level of Competition	To what extent does this job require the worker to compete or to be aware of competitive pressures?	65
Time Pressure	How often does this job require the worker to meet strict deadlines?	63

<b>Work Condition</b>	<b>Work Condition Description</b>	<b>Rank by Importance (Out of 100)</b>
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?	59
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?	58
Responsibility for Outcomes and Results	How responsible is the worker for work outcomes and results of other workers?	51
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?	50
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?	48
Physical Proximity	To what extent does this job require the worker to perform job tasks in close physical proximity to other people?	45
Deal With External Customers	How important is it to work with external customers or the public in this job?	42
Consequence of Error	How serious would the result usually be if the worker made a mistake that was not readily correctable?	41
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?	39
Spend Time Making Repetitive Motions	How much does this job require making repetitive motions?	38
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?	34
Responsible for Others' Health and Safety	How much responsibility is there for the health and safety of others in this job?	34
Frequency of Conflict Situations	How often are there conflict situations the employee has to face in this job?	30
Degree of Automation	How automated is the job?	30
Letters and Memos	How often does the job require written letters and memos?	26

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 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)
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.	78
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
Independence	Occupations that satisfy this work value allow employees to work on their own and make decisions. Corresponding needs are Creativity, Responsibility and Autonomy.	67
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.	61
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.	61

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, Systems Software.

Detailed Tool	Tool Group
Graphics processing unit GPU	Central processing unit CPU processors
Multi-core central processing unit CPU	Central processing unit CPU processors
Application servers	Computer servers
Desktop computers	Desktop computers
Directory servers	High end computer servers
In circuit emulators ICE	Integrated circuit testers
Logic analyzers	Integrated circuit testers
Mainframe computers	Mainframe computers

**Detailed Tool**

Notebook computers

**Tool Group**

Notebook computers

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 Technology

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

**Detailed Technology**

Citrix

Software distribution management software

Data analysis software

Dynamic modeling software

Minitab

SAS

Simulation program with integrated circuit emphasis  
SPICE

The MathWorks MATLAB

The MathWorks Simulink

GitHub

Oracle Application Server

Oracle WebLogic Server

Red Hat WildFly

Backup and archival software

Veritas NetBackup

IBM Cognos Impromptu

Oracle Business Intelligence Enterprise Edition

IBM Domino

Autodesk AutoCAD

Computer assisted software engineering CASE  
software

Dassault Systemes CATIA

PTC Creo Parametric

Automated installation software

Configuration management software

Deployment software

IBM Rational ClearCase

**Technology Group**

Access software

Administration software

Analytical or scientific software

Analytical or scientific software

Analytical or scientific software

Analytical or scientific software

Analytical or scientific software

Analytical or scientific software

Analytical or scientific software

Application server software

Application server software

Application server software

Application server software

Backup or archival software

Backup or archival software

Business intelligence and data analysis software

Business intelligence and data analysis software

Communications server software

Computer aided design CAD software

Computer aided design CAD software

Computer aided design CAD software

Computer aided design CAD software

Configuration management software

Configuration management software

Configuration management software

Configuration management software



## Detailed Technology

MySQL

Oracle JDBC

Oracle software

Structured query language SQL

Transact-SQL

A programming language APL

ABC Compiler

Ada

Adobe Systems Adobe ActionScript

Algorithmic language ALGOL

American National Standards Institute ANSI C

Apache Maven

Assembler

AWK

Beginner's all-purpose symbolic instruction code  
BASIC

Bigloo Scheme

B-Method

C

Call-processing language CPL

Common business oriented language COBOL

Computer On-line Real-time Applications Language  
CORAL 66

Eclipse IDE

Embarcadero JBuilder

Embedded systems development software

Event-driven State-machines Programming

Formula translation/translator FORTRAN

Forth

Gambit Scheme

Haskell

IBM Rational ClearQuest

IBM Rational Rose XDE Developer D93

ICON programming language

Integrated development environment IDE software

## Technology Group

Data base user interface and query software

Data base user interface and query software

Data base user interface and query software

Data base user interface and query software

Data base user interface and query software

Development environment software

Development environment software

Development environment software

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Detailed Technology	Technology Group
Node.js	Web platform development software
Oracle JavaServer Pages JSP	Web platform development software
PHP: Hypertext Preprocessor	Web platform development software
Ruby on Rails	Web platform development software
Spring Framework	Web platform development 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, Systems Software in Louisiana.

## Typical Knowledge Categories

This section shows the most common knowledge categories required by Software Developers, Systems Software 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)
<a href="#">Computers and Electronics</a>	Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.	97
<a href="#">Engineering and Technology</a>	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.	74
<a href="#">Mathematics</a>	Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.	71
<a href="#">Telecommunications</a>	Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.	65
<a href="#">Design</a>	Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.	63
<a href="#">English Language</a>	Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.	54
<a href="#">Customer and Personal Service</a>	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

<b>Knowledge Category</b>	<b>Knowledge Category Description</b>	<b>Rank by Importance (Out of 100)</b>
<u>Communications and Media</u>	Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.	44
<u>Administration and Management</u>	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.	43
<u>Physics</u>	Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.	40
<u>Law and Government</u>	Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.	38
<u>Clerical</u>	Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.	33
<u>Public Safety and Security</u>	Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.	33
<u>Sales and Marketing</u>	Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems.	32
<u>Geography</u>	Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.	31
<u>Economics and Accounting</u>	Knowledge of economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data.	26
<u>Psychology</u>	Knowledge of human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.	25

<b>Knowledge Category</b>	<b>Knowledge Category Description</b>	<b>Rank by Importance (Out of 100)</b>
<a href="#"><u>Production and Processing</u></a>	Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.	21

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 Abilities Required

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

<b>Work Ability</b>	<b>Work Ability Description</b>	<b>Rank by Importance (Out of 100)</b>
<a href="#"><u>Oral Comprehension</u></a>	The ability to listen to and understand information and ideas presented through spoken words and sentences.	75
<a href="#"><u>Written Comprehension</u></a>	The ability to read and understand information and ideas presented in writing.	75
<a href="#"><u>Oral Expression</u></a>	The ability to communicate information and ideas in speaking so others will understand.	72
<a href="#"><u>Deductive Reasoning</u></a>	The ability to apply general rules to specific problems to produce answers that make sense.	69
<a href="#"><u>Inductive Reasoning</u></a>	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	69
<a href="#"><u>Problem Sensitivity</u></a>	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.	69
<a href="#"><u>Written Expression</u></a>	The ability to communicate information and ideas in writing so others will understand.	66
<a href="#"><u>Information Ordering</u></a>	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).	63
<a href="#"><u>Near Vision</u></a>	The ability to see details at close range (within a few feet of the observer).	63
<a href="#"><u>Speech Recognition</u></a>	The ability to identify and understand the speech of another person.	63
<a href="#"><u>Speech Clarity</u></a>	The ability to speak clearly so others can understand you.	56
<a href="#"><u>Mathematical Reasoning</u></a>	The ability to choose the right mathematical methods or formulas to solve a problem.	53

<b>Work Ability</b>	<b>Work Ability Description</b>	<b>Rank by Importance (Out of 100)</b>
<u>Originality</u>	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.	53
<u>Selective Attention</u>	The ability to concentrate on a task over a period of time without being distracted.	53
<u>Category Flexibility</u>	The ability to generate or use different sets of rules for combining or grouping things in different ways.	50
<u>Fluency of Ideas</u>	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).	50
<u>Flexibility of Closure</u>	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	47
<u>Visualization</u>	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	44
<u>Number Facility</u>	The ability to add, subtract, multiply, or divide quickly and correctly.	41
<u>Finger Dexterity</u>	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.	38
<u>Time Sharing</u>	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
<u>Far Vision</u>	The ability to see details at a distance.	35
<u>Memorization</u>	The ability to remember information such as words, numbers, pictures, and procedures.	35
<u>Perceptual Speed</u>	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.	35
<u>Speed of Closure</u>	The ability to quickly make sense of, combine, and organize information into meaningful patterns.	31
<u>Visual Color Discrimination</u>	The ability to match or detect differences between colors, including shades of color and brightness.	31
<u>Auditory Attention</u>	The ability to focus on a single source of sound in the presence of other distracting sounds.	22
<u>Hearing Sensitivity</u>	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	22

<b>Work Ability</b>	<b>Work Ability Description</b>	<b>Rank by Importance (Out of 100)</b>
<u>Arm-Hand Steadiness</u>	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	19
<u>Control Precision</u>	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	19
<u>Manual Dexterity</u>	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	19
<u>Depth Perception</u>	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.	6
<u>Spatial Orientation</u>	The ability to know your location in relation to the environment or to know where other objects are in relation to you.	3
<u>Trunk Strength</u>	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.	3
<u>Wrist-Finger Speed</u>	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	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, Systems Software in order of importance.

<b>Work Interest</b>	<b>Work Interest Description</b>	<b>Rank by Importance (Out of 100)</b>
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.	100
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.	78
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.	50

<b>Work Interest</b>	<b>Work Interest Description</b>	<b>Rank by Importance (Out of 100)</b>
Artistic	Artistic occupations frequently involve working with forms, designs and patterns. They often require self-expression and the work can be done without following a clear set of rules.	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, Systems Software in order of importance. Click on a link in the Work Style column to view more detailed information.

<b>Work Style</b>	<b>Work Style Description</b>	<b>Rank by Importance (Out of 100)</b>
<a href="#"><u>Attention to Detail</u></a>	Job requires being careful about detail and thorough in completing work tasks.	91
<a href="#"><u>Analytical Thinking</u></a>	Job requires analyzing information and using logic to address work-related issues and problems.	89
<a href="#"><u>Dependability</u></a>	Job requires being reliable, responsible, and dependable, and fulfilling obligations.	85
<a href="#"><u>Initiative</u></a>	Job requires a willingness to take on responsibilities and challenges.	83
<a href="#"><u>Adaptability/Flexibility</u></a>	Job requires being open to change (positive or negative) and to considerable variety in the workplace.	80
<a href="#"><u>Innovation</u></a>	Job requires creativity and alternative thinking to develop new ideas for and answers to work-related problems.	78
<a href="#"><u>Independence</u></a>	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.	77
<a href="#"><u>Persistence</u></a>	Job requires persistence in the face of obstacles.	77
<a href="#"><u>Integrity</u></a>	Job requires being honest and ethical.	76
<a href="#"><u>Stress Tolerance</u></a>	Job requires accepting criticism and dealing calmly and effectively with high stress situations.	75
<a href="#"><u>Achievement/Effort</u></a>	Job requires establishing and maintaining personally challenging achievement goals and exerting effort toward mastering tasks.	73
<a href="#"><u>Cooperation</u></a>	Job requires being pleasant with others on the job and displaying a good-natured, cooperative attitude.	70
<a href="#"><u>Leadership</u></a>	Job requires a willingness to lead, take charge, and offer opinions and direction.	63

<b>Work Style</b>	<b>Work Style Description</b>	<b>Rank by Importance (Out of 100)</b>
<a href="#"><u>Self Control</u></a>	Job requires maintaining composure, keeping emotions in check, controlling anger, and avoiding aggressive behavior, even in very difficult situations.	60
<a href="#"><u>Concern for Others</u></a>	Job requires being sensitive to others' needs and feelings and being understanding and helpful on the job.	57
<a href="#"><u>Social Orientation</u></a>	Job requires preferring to work with others rather than alone, and being personally connected with others on the job.	44

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## Related Occupations



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

<b>Rank</b>	<b>Related Occupations</b>	<b>Duties</b>	<b>*Related By</b>
1	<a href="#"><u>Computer Network Architects</u></a>	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	<a href="#"><u>Computer Programmers</u></a>	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	<a href="#"><u>Computer Systems Analysts</u></a> ♦	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	<a href="#"><u>Computer Systems Engineers/Architects</u></a> ♦	Design and develop solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions.	O*NET
5	<a href="#"><u>Database Administrators</u></a> ♦	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



Rank	Related Occupations	Duties	*Related By
6	<u>Geographic Information Systems Technicians</u> ♦ 🌱	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
7	<u>Geospatial Information Scientists and Technologists</u> ♦ 🌱	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	<u>Informatics Nurse Specialists</u> ♦	Apply knowledge of nursing and informatics to assist in the design, development, and ongoing modification of computerized health care systems. May educate staff and assist in problem solving to promote the implementation of the health care system.	O*NET
9	<u>Information Security Analysts</u> ♦	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
10	<u>Network and Computer Systems Administrators</u>	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
11	<u>Software Developers, Applications</u> ♦	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.	O*NET
12	<u>Software Quality Assurance Engineers and Testers</u> ♦	Develop and execute software test plans in order to identify software problems and their causes.	O*NET
13	<u>Web Administrators</u> ♦	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
14	<u>Web Developers</u> ✨	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
15	<u>Atmospheric and Space Scientists</u> ✨ 🌱	Investigate atmospheric phenomena and interpret meteorological data, gathered by surface and air stations, satellites, and radar to prepare reports and forecasts for public and other uses. Includes weather analysts and forecasters whose functions require the detailed knowledge of meteorology.	O*NET
16	<u>Cartographers and Photogrammetrists</u> ✨	Collect, analyze, and interpret geographic information provided by geodetic surveys, aerial photographs, and satellite data. Research, study, and prepare maps and other spatial data in digital or graphic form for legal, social, political, educational, and design purposes. May work with Geographic Information Systems (GIS). May design and evaluate algorithms, data structures, and user interfaces for GIS and mapping systems.	O*NET
17	<u>Computer and Information Research Scientists</u> ✨	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
18	<u>Computer and Information Systems Managers</u> ✨	Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	O*NET
19	<u>Computer Hardware Engineers</u>	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
20	<u>Computer Science Teachers, Postsecondary</u>	Teach courses in computer science. May specialize in a field of computer science, such as the design and function of computers or operations and research analysis. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.	O*NET
21	<u>Electrical Engineers</u> 🌱	Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use.	O*NET
22	<u>Logistics Engineers</u> 🌱	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
23	<u>Mechanical Engineers</u> 🌱	Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.	O*NET








Rank	Related Occupations	Duties	*Related By
24	<a href="#"><u>Remote Sensing Scientists and Technologists</u></a> 	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
25	<a href="#"><u>Validation Engineers</u></a> 	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

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## Career Ladder

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

Occupation Title	Number of Individuals that Moved	Percentage of Individuals that Moved
<a href="#"><u>Software Developers, Applications</u></a> 	18	36.00%
<a href="#"><u>Computer Programmers</u></a>	6	12.00%
<a href="#"><u>Computer User Support Specialists</u></a> 	6	12.00%
<a href="#"><u>Information Technology Project Managers</u></a> 	5	10.00%
<a href="#"><u>Computer Systems Analysts</u></a> 	4	8.00%
<a href="#"><u>Computer Systems Engineers/Architects</u></a> 	3	6.00%
<a href="#"><u>Chief Executives</u></a>	2	4.00%
<a href="#"><u>Computer and Information Systems Managers</u></a> 	2	4.00%
<a href="#"><u>Computer Network Support Specialists</u></a>	2	4.00%
<a href="#"><u>Business Intelligence Analysts</u></a> 	2	4.00%

 BRIGHT OUTLOOK NATIONALLY

Source: Individuals with active résumés in the workforce system.

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