

COMPUTER VILLAGE

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IoT Skills Most In Demand

By Sharon Florentine, Senior Writer, CIO

All we have been hearing is IoT this, IoT that; but the big question is where should I focus my attention if I want to be employed in this tidal wave of technology. So listed below are the top ten areas of focus, with the major points highlighted. We even added the educational path for you to acquire these jobs.

–Computer Village

Insufficient staffing and lack of expertise is hampering the IoT market. Here are the top ten skills you need to succeed in this hot field.

1. Machine Learning

- Data harvesting using algorithms to create smarter applications, and products using data sensors and other connected devices
- Education: Most computer and information research scientists need a master's degree in computer science or a related field, such as computer engineering. A master's degree usually requires 2 to 3 years of study after earning a bachelor's degree in a computer-related

field, such as computer science or information systems.

2. AutoCAD

- Design software for engineering applications, works well with example 3D design.
- Education: Most programmers learn a few computer languages while in school. However, a computer science degree gives students the skills needed to learn new computer languages easily. Students get hands-on

experience writing code, testing programs, fixing errors, and doing many other tasks that they will perform on the job.

3. Node.js

- Is a JavaScript runtime built on Chrome's V8. V8 is Google's open source high-performance JavaScript engine, written in C++ and used in Google Chrome, the open source browser from Google, and in Node.js, among others.
- Education: Most programmers learn a few computer languages while in school. However, a computer science degree gives students the skills needed to learn new computer languages easily. Students get hands-on experience writing code, testing programs, fixing errors, and doing many other tasks that they will perform on the job.

4. Security Infrastructure

- Protect the confidentiality, integrity and availability of computer system data from those with malicious intentions.
- Education: Information security analysts usually need at least a bachelor's degree in computer science, information assurance, programming, or a related field. Some employers prefer applicants who have a Master of Business Administration (MBA) in information systems. Programs

offering the MBA in information systems generally require 2 years of study beyond the undergraduate level and include both business and computer-related courses.

5. Security Engineering

- Talent skilled in vulnerability assessment to identify both physical and logical threats to embedded systems such as local controllers/gateways and determine the risk at the device level.
- Most entry-level computer hardware engineers have a bachelor's degree in computer engineering, although a degree in electrical engineering or computer science also is generally acceptable. Computer engineering major is similar to a major in electrical engineering but with a heavy emphasis on computer science.

6. Big Data

- Computer and information research scientists write algorithms that are used to detect and analyze patterns in very large datasets. They improve ways to sort, manage, and display data. Computer scientists build algorithms into software packages that make the data easier for analysts to use. For example, they may create an algorithm to analyze a very large

set of medical data in order to find new ways to treat diseases. They may also look for patterns in traffic data to help clear accidents faster.

- Education: Most computer and information research scientists need a master's degree in computer science or a related field, such as computer engineering. A master's degree usually requires 2 to 3 years of study after earning a bachelor's degree in a computer-related field, such as computer science or information systems.

7. GPS Development

- Surveying technicians work outside extensively and can be exposed to all types of weather. Mapping technicians work primarily indoors on computers. Most surveying and mapping technicians work for firms that provide engineering, surveying, and mapping services on a contract basis. Local governments also employ these workers in highway and planning departments.
- Education: Surveying technicians generally need a high school diploma, but some have postsecondary training in survey technology. Postsecondary training is more common among mapping technicians where an associate's degree or bachelor's degree in a relevant field, such as

geomatics, is beneficial. High school students interested in working as a surveying or mapping technician should take courses in algebra, geometry, trigonometry, drafting, mechanical drawing, and computer science. Knowledge of these subjects may help in finding a job and in advancing.

8. Electrical Engineering

- Electrical engineers design, develop, test, and supervise the manufacturing of electrical equipment, such as electric motors, radar and navigation systems, communications systems, and power generation equipment. Electronics engineers design and develop electronic equipment, including broadcast and communications systems, such as portable music players and Global Positioning System (GPS) devices.
- Education: High school students interested in studying electrical or electronics engineering benefit from taking courses in physics and math, including algebra, trigonometry, and calculus. Courses in drafting are also helpful, because electrical and electronics engineers often are required to prepare technical drawings. In order to enter the occupation, prospective electrical and electronics engineers need a bachelor's degree in electrical

engineering, electronics engineering, electrical engineering technology, or a related engineering field. Programs include classroom, laboratory, and field studies. Courses include digital systems design, differential equations, and electrical circuit theory. Programs in electrical engineering, electronics engineering, or electrical engineering technology should be accredited by ABET (Accreditation Board for Engineering and Technology, Inc.).

9. Circuit Design

- As circuit design is the process of working out the physical form that an electronic circuit will take, the result of the circuit design process is the instructions on how to construct the physical electronic circuit.
- Education: Most entry-level computer hardware engineers have a bachelor's degree in computer engineering, although a degree in electrical engineering or computer science also is generally acceptable. Computer engineering major is similar to a major in electrical engineering but with a heavy emphasis on computer science.

10. Microcontroller Programming

- A job that writes a program code for your computers. The code is compiled with a compiler for the microcontroller to use. The compiled program version is uploaded to the microcontroller.
- Education: Microcontroller programmers usually need at least a bachelor's degree in computer science, information assurance, programming, or a related field.

To read the entire articles go to <https://www.cio.com/article/3072132/it-skills-training/10-most-in-demand-internet-of-things-skills.html#slide1>

*Education requirements provided by the Bureau of Labor Statistics

Staff Highlite: Jasmine Alade'Fa

Nick Curlett

Computer Village



Computer Village Staffer:
Jasmine Alade'Fa

I am always thrilled to introduce to our readers the Computer Village Staffers. This young lady has a zeal for knowledge, an appetite to develop new, fun methods to teach coding and computer programming. She is a hometown product from Ferguson/Florissant area.

She's a Wildcat, Northwestern University undergraduate with a B.S. in Biomedical Engineering. She is in the process of continuing her education with the ultimate goal of becoming a Professor of Biomedical Engineering or Prosthetics research.



She recently taught the Computer Village instructors introduction to Python 3.5 and instructed grade school students 3D printing inclusive of Drone technology. When she is not working hard to develop herself and others she has a passion for creating in other



forms, she loves crocheting and knitting. Her other passion is cooking foods from around the world.



comics ,also graphic novels).

Jasmine is fluent in reading, writing and speaking Japanese. I would be remiss if I didn't greet you properly. こんにちは (konnichiha) pronounced as (konnichiwa) which means Hello in Japanese. In writing this profile she has taught me something. Her love for Japan doesn't stop there she also loves anime (Japanese-style animated film or television entertainment) and reading manga (book of pictures or



“Don continues to stress the importance of IoT as a major component for the growth of young people associated with job stability in our community.

Computer Village Executive Director, Don Holt



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Facebook: <https://www.facebook.com/cvillagestlouis/>

YouTube: <https://www.youtube.com/channel/UCn3uTiYe4Tf91Ug44WlVlKkA>

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