

# Automation Engineer

## DESCRIPTION

Automation engineers design, program, simulate and test automated machinery and processes in order to complete exact tasks. They typically are employed in industries such as car manufacturing or food processing plants, where robots or machines are used to perform specific functions.



## EDUCATION & TRAINING

Most automation engineers earn their bachelor's degrees in mechanical or electrical engineering and then learn the intricacies of automation engineering on the job. Mechanical or electrical engineering courses may include robotics, statistics, fluid dynamics and databases. Some automation engineers pursue master's degrees in related fields.

## WORK ENVIRONMENT

According to the BLS, manufacturing is increasingly moving toward automated processes to reduce the amount of labor needed. Thus, automation engineers are expected to have good job prospects in the coming years. The BLS noted that job growth for mechanical engineers, a closely related field, was predicted at 9% for 2016-2026.

## KEY COMPETENCIES

1. Solid understanding of computer programming and software development.
2. Ability to troubleshoot equipment problems and perform complex system tests.
3. Creative thinking skills.
4. Detail-oriented personality.
5. Excellent manual dexterity.
6. Ability to communicate well to other members of the development team.

## JOB OUTLOOK

Automotive engineers also known as mechanical engineers, are projected to grow 9 percent from 2016 to 2026. This is a little slower than the average for most occupations. The need for design on the next generation of vehicles such as electric cars and vehicle systems will keep the career in demand.

# Automation Engineer



Director,  
Head of testing  
unit

Automation Test  
engineer



Automotive Test  
Technician

Automation  
test technician intern



Manual tester



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# Cloud IT Technician

## Description

The technician usually monitors and analyzes the capabilities and performance of the systems. They compare, evaluate, and implement new technologies, and integrate systems into the computing environment. It is the individual's responsibility to document systems infrastructure for the convenience of the users.



## KEY COMPETENCIES

1. Linux
2. Programming
3. Database Management
4. Multi-Cloud Deployment
5. Artificial Intelligence and Machine Learning
6. Automation
7. Server less Architecture

## WORK ENVIRONMENT

According to the U.S. Bureau of Labor Statistics, Cloud IT Technician in most fields work in "well-lit, comfortable offices or computer laboratories." While most work an average of 40 hours a week, about 15 of those in this field work over 50 hours a week.

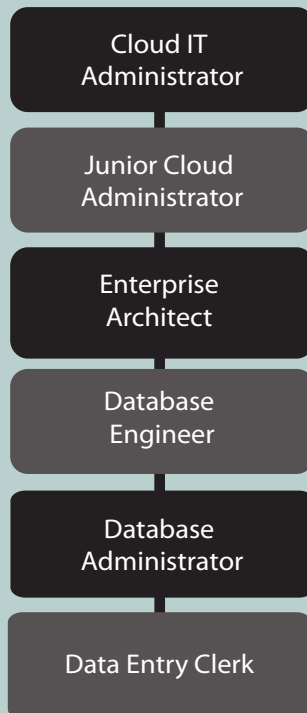
## EDUCATION & TRAINING

A bachelor's degree in software engineering, data science, computer science, or a related discipline is usually required for cloud development training. Courses offering computer programming languages widely used in cloud-based development.

## JOB OUTLOOK

Cloud computing jobs are vital to leveraging all the advantages. In an ever-changing technological world, certain cloud computing jobs are in demand. Considering that businesses have had to rethink their operations due to COVID-19, the cloud becomes more critical. It also has a lasting impact on IT jobs in general.

# Cloud IT Administrator



# Computer Software Engineer

## Description

Computer systems software engineers conceptualize, design, construct, install, maintain and repair computer systems. They advise users regarding the technical direction of their computer systems based on their needs. They may recommend making changes to an existing system or installing an entirely new system.



## KEY COMPETENCIES

1. Mathematical aptitude.
2. Problem-solving skills.
3. Programming languages (different types of developer role require different languages)
4. Excellent organisational and time management skills.
5. Accuracy and attention to detail.

## WORK ENVIRONMENT

Computer software engineers typically work in well-lit offices in comfortable surroundings or in computer laboratories. Most work at least 40 hours a week, but due to the project-oriented nature of the work, they may also have to work evenings and weekends to meet deadlines or solve unexpected technical problems

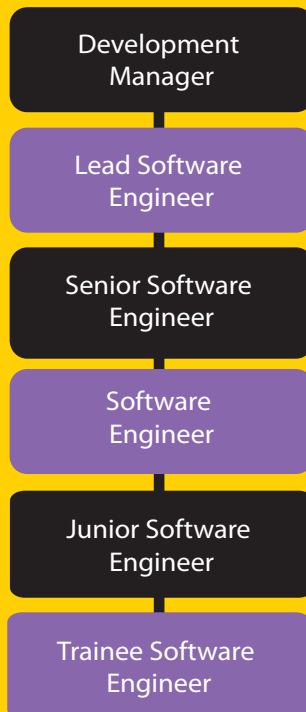
## EDUCATION & TRAINING

A bachelor's degree, usually in computer science, computer systems engineering, software engineering or mathematics or completion of a college program in computer science is usually required. 2. A master's or doctoral degree in a related discipline may be required.

## JOB OUTLOOK

Employment of software developers is projected to grow 22 percent from 2019 to 2029, much faster than the average for all occupations. Software developers will be needed to respond to an increased demand for computer software.

## Computer Software Engineer



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# Cyber Security Analyst

## Description

The Cyber Security Analyst is responsible for providing security during the development stages of software systems, networks and data centers.



## KEY COMPETENCIES

1. Problem-Solving Skills
2. Technical Aptitude
3. Knowledge of Security Across Various Platforms
4. Attention to Detail
5. Communication Skills
6. Fundamental Computer Forensics Skills
7. A Desire to Learn
8. An Understanding of Hacking

## WORK ENVIRONMENT

Although 28 percent of information security analysts work in the computer systems industry, others can be found working in finance and insurance, company management or administrative and support services.

## EDUCATION & TRAINING

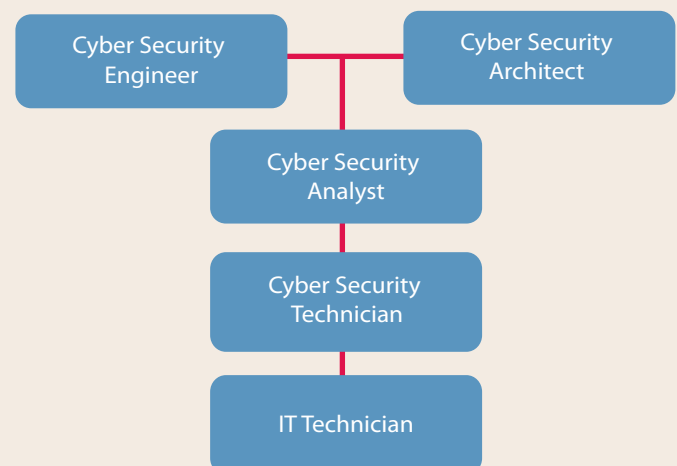
To land a top job in cybersecurity, education is key. While a bachelor's degree in a related field is required for most cybersecurity positions from entry-level on up, those who aspire to the highest levels of cybersecurity and hope to have a long career in the profession should strongly consider a master's degree.

## JOB OUTLOOK

Demand for information Cyber Security Analysts is expected to grow at a rate of 32 percent through 2028. This rate is higher than all other occupations, even outside of the security field.



## Cyber Security





# Database Administrator

## Description

Database administrators use specialized software to store and organise data, such as financial information and customer shipping records. They make sure that data are available to users and secure from unauthorized access.



## KEY COMPETENCIES

1. Patience
2. Meticulous attention to detail
3. A logical approach to work
4. The ability to prioritise tasks
5. Problem-solving skills
6. Good organisational skills
7. Communication and interpersonal skills

## WORK ENVIRONMENT

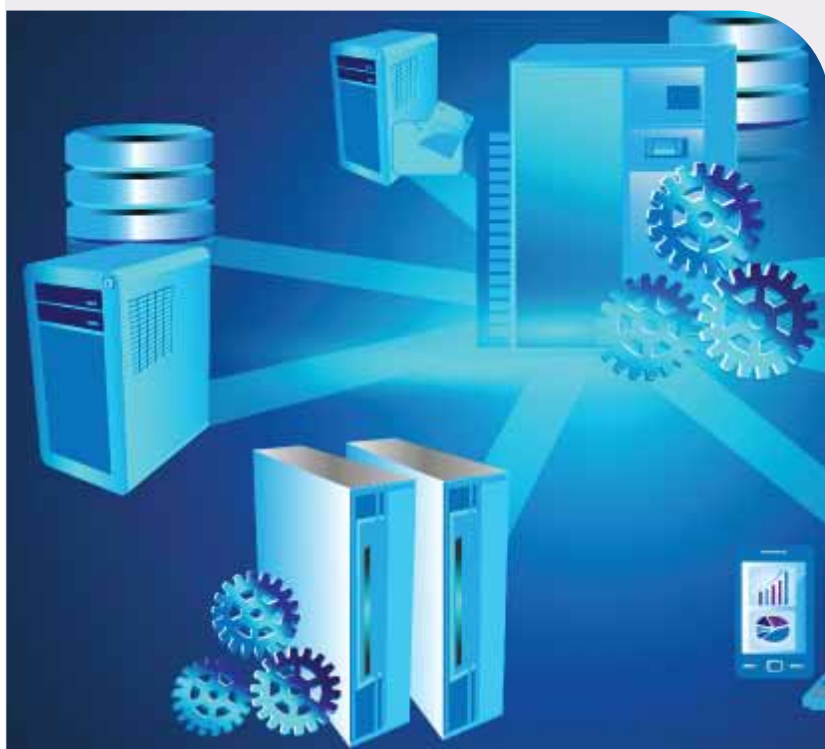
Many database administrators work in firms that provide computer design services or in industries that have large databases, such as educational institutions and insurance companies. Almost all database administrators work full time

## EDUCATION & TRAINING

Database administrators need at least a bachelor's degree in information science or computer science for most entry-level positions. Depending on the size and complexity of their company or governing body, these professionals may need a master's degree in database administration or information technology.

## JOB OUTLOOK

Employment of database administrators is projected to grow 10 percent from 2019 to 2029, much faster than the average for all occupations. Growth in this occupation will be driven by the increased data needs of companies across the economy.



## Database Administrator

Information Systems Manager

Database Administrator

Big Data Engineer

Data Analyst

Data Entry Clerk



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# Digital Architect

## DESCRIPTION

Researches, designs and advocates new technologies, architectures, and security products. Analyzes business impact and exposure, based on emerging security threats, vulnerabilities and risks. Communicates security risks and solutions to business partners and IT staff.



## KEY COMPETENCIES

1. Design skills and knowledge
2. Knowledge of building and construction
3. To be thorough and pay attention to detail
4. Thinking and reasoning skills
5. Customer service skills
6. Excellent verbal communication skills
7. Analytical thinking skills
8. The ability to use your initiative

## WORK ENVIRONMENT

Architects spend much of their time in offices, where they meet with clients, develop reports and drawings, and work with other architects and engineers. They also visit construction sites to ensure that clients' objectives are met and to review the progress of projects. Some architects work from home offices.

## JOB OUTLOOK

Jobs in this area is expected to grow about 30% in the next few years. However the area will be very competitive and as a result architects will be required to be highly qualified in order to take advantage of opportunities.

## EDUCATION & TRAINING

Earning a bachelor's degree in architecture is typically the first step to becoming an architect. Most architects earn their degree through a 5-year Bachelor of Architecture degree program. Many earn a master's degree in architecture, which can take 1 to 5 additional years

# Digital Architect

Master Architect

Senior Digital Architect

Digital Architect

Digital Platform Specialist

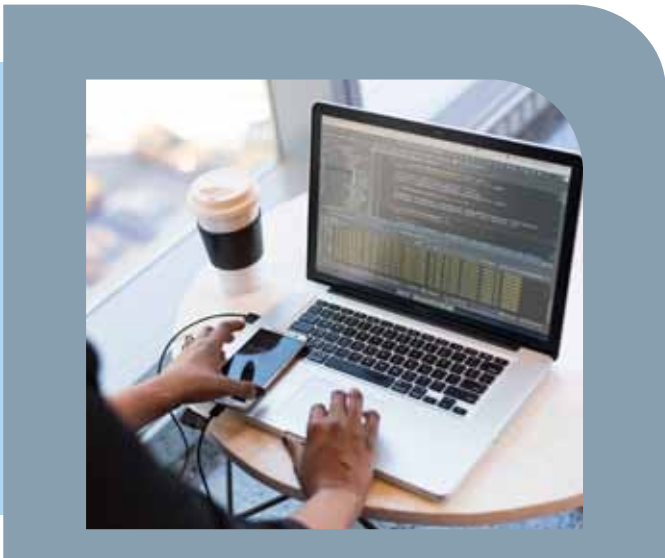
Digital Architect Associate



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# Software Developer Description

Software developers design, develop, and test software and applications for computers. The main duties and responsibilities of software engineers include directing and participating in programming activities, monitoring, and evaluating system performance, and designing and implementing new programs and features.



## KEY COMPETENCIES

1. Mathematical aptitude.
2. Problem-solving skills.
3. Programming languages (different types of developer role require different languages)
4. Excellent organisational and time management skills.
5. Accuracy and attention to detail.

## WORK ENVIRONMENT

Software developers usually work in an office setting, though many can work in a remote setting since they perform most duties on a computer. Most of them work at least 40 hours per week during regular business hours with some nights and weekends to meet deadlines or resolve unexpected technical issues.

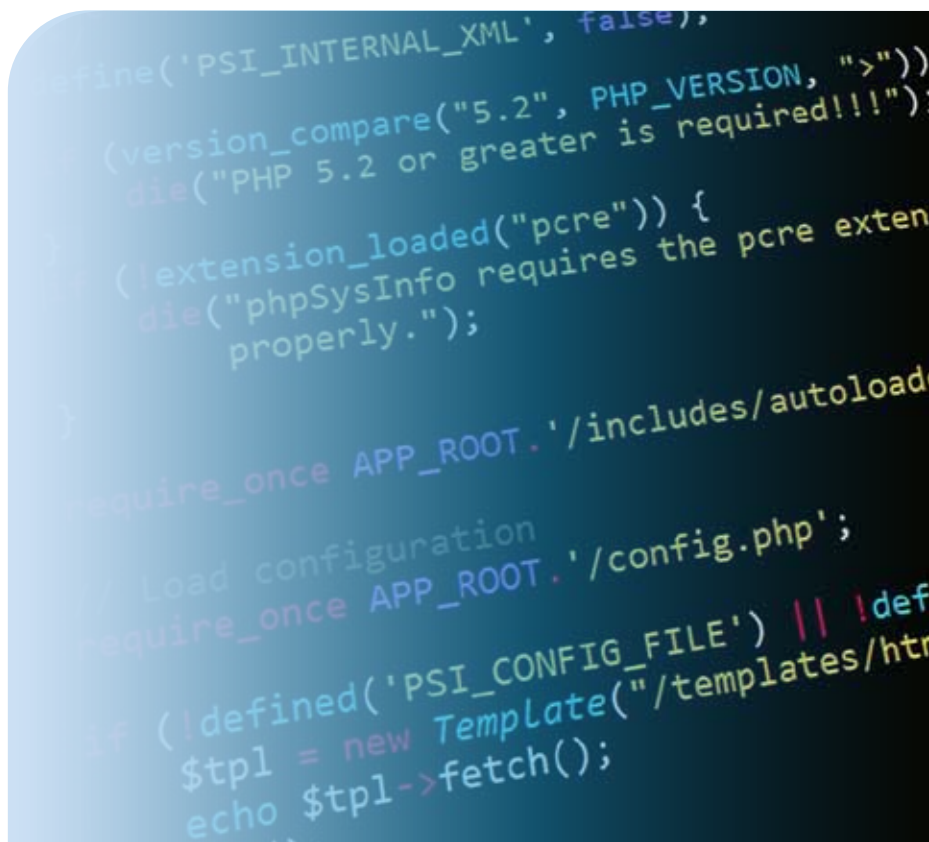
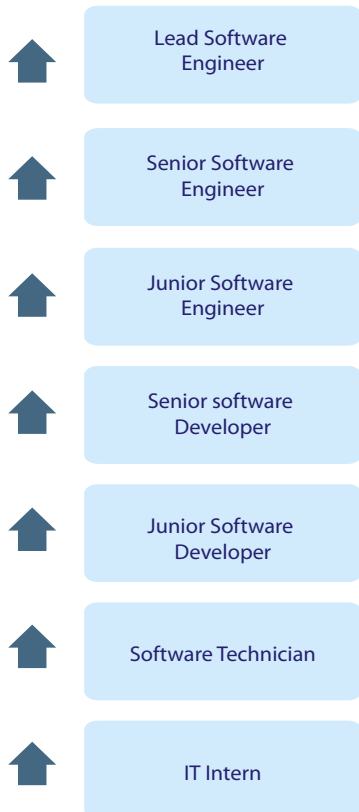
## EDUCATION & TRAINING

Most computer software development jobs require bachelor's degrees in computer science or software engineering. These programs have significant math requirements that include a sequence in calculus, differential equations, and linear algebra. A sequence in physics is also required.

## JOB OUTLOOK

Employment of software developers is projected to grow 22 percent from 2019 to 2029, much faster than the average for all occupations. Software developers will be needed to respond to an increased demand for computer software.

## Software Developer



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# Virtual Developers

## Description

Virtual reality and augmented reality developers are the creative minds behind extended reality programs. The duties within the first few years in a position in either field typically include the designing, testing and developing of virtual or augmented reality software.



## KEY COMPETENCIES

1. Video editing.
2. 3D Modelling.
3. Experience in CAD (computer-aided design)
4. Proficiency in creating VR content with the available resources.
5. Exposure to digitalization trends.

## WORK ENVIRONMENT

The demand for virtual and augmented reality developers is exploding. Extended reality technology may have started primarily with gaming companies but has spread into various industries such as education, healthcare and military. Many persons work in offices.

## EDUCATION & TRAINING

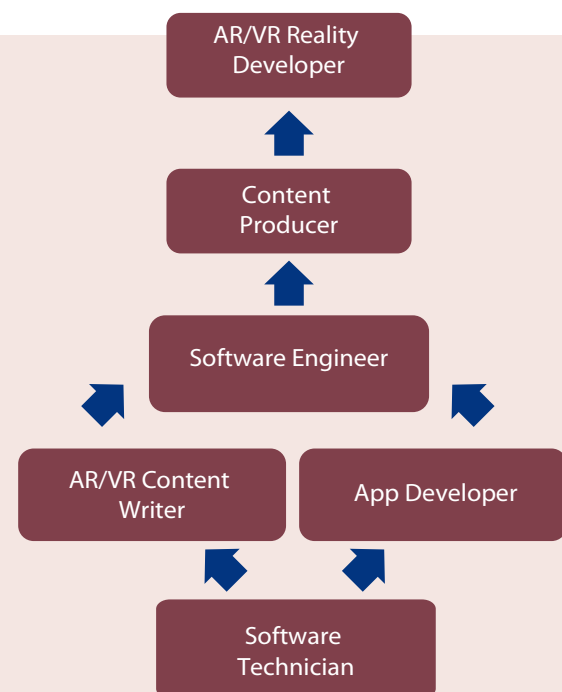
A degree in computer science or software engineering is often a preferred or required qualification for entry-level virtual and augmented reality positions. Game development courses will also provide you with an excellent base, as would courses in mathematics or simulated physics.

## JOB OUTLOOK

As the industry sees immense growth and adoption, VR developers especially are becoming more in-demand. VR industry revenue is expected to jump from 3.7 billion U.S. dollars in 2016 to over 40 billion U.S. dollars by 2020.



## Virtual/Augmented Reality Developer





# ANIMATION

## DESCRIPTION

Animation is the process of displaying still images in a rapid sequence to create the illusion of movement, using knowledge of the way that a character or object moves to make them believable and showing emotion to tell a story. Career pathways may follow a defined pathway through one of the following animation pipelines:

- Production management
- Development
- Pre-production
- Production
- Post-production
- Sales and marketing



### KEY COMPETENCES

- Artistic ability
- Communication skills
- Computer skills
- Creativity
- Time-management skills.

### WORK ENVIRONMENT

Persons working in this field may be self-employed or salaried and may work as part of a team. Persons working in this career area might make content for film, cartoons, video games, commercials, education videos, visual effects and virtual reality companies.

### EDUCATION & TRAINING

An entry level position in this career path typically requires an Associate's degree/ Level 4 NVQJ certification or Bachelor's/ Level 5 NVQJ certification in fine art, computer graphics, animation, or a related field. However, persons who are self-taught or have lower levels of qualification may enter the career path with a strong portfolio of work.

## Animation (Production Management) Pathway



# CONTENT CREATOR

## DESCRIPTION

A Content Creator is someone who is responsible for the contribution of information to any media and most especially to digital media. They usually target a specific end-user/audience in specific contexts. A content creator can contribute any of the following: blog, news, image, video, audio, email, social updates and other related content.

Content marketing generates over three times as many leads as outbound marketing and costs 62% less.



### Work Environment

- Large/small companies
- Freelance
- Indoor/outdoor
- Digital equipment

### Key Competencies

- Speed skills
- Listening Skills
- Interpersonal Skills
- Communication
- Teamwork
- Adaptability
- Problem Solving
- Creativity
- Work Ethic
- Interpersonal
- Time Management
- Writing
- Researching
- Graphic Designing
- Photography

### Education & Training

Specific career requirements may vary between employers, but you can generally expect to need training and education in media-based sales and marketing. BSc in Marketing, English, Journalism or relevant field

### Duties & Responsibilities

Content Creator responsibilities includes:

- Research industry-related topics
- Prepare well-structured drafts using digital publishing platforms
- Create and distribute marketing copy to advertise our company and products
- Interview industry professionals and incorporate their views in blog posts
- Edit and proofread written pieces before publication
- Conduct keyword research and use SEO guidelines to optimize content
- Promote content on social networks and monitor engagement (e.g. comments and shares)
- Identify customers' needs and recommend new topics
- Coordinate with marketing and design teams to illustrate articles
- Measure web traffic to content (e.g. conversion and bounce rates)
- Programme Management
- Project planning.

### Job Outlook

The content specialist field has been showing exciting growth, especially as more and more companies turn towards a content-based approach to marketing. Job prospects are excellent, especially for well-qualified candidates. It is highly likely that demand will continue to grow as social media and online browsing becomes more and more popular, and as technology opens new doors for high-quality content.

## Content Creator Pathway

Digital Marketing Manager

Digital Marketer

Content Strategist

Content Editor

Content Creator



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# GRAPHIC DESIGN

## DESCRIPTION

Graphic design involves the use of images, text and colour to communicate information and ideas. Persons in this field may follow a defined pathway for career advancement, but opportunities are extremely diverse based on areas of specialisation.



### KEY COMPETENCES

- Analytical skills
- Artistic ability
- Communication skills
- Computer skills
- Creativity
- Time-management skills

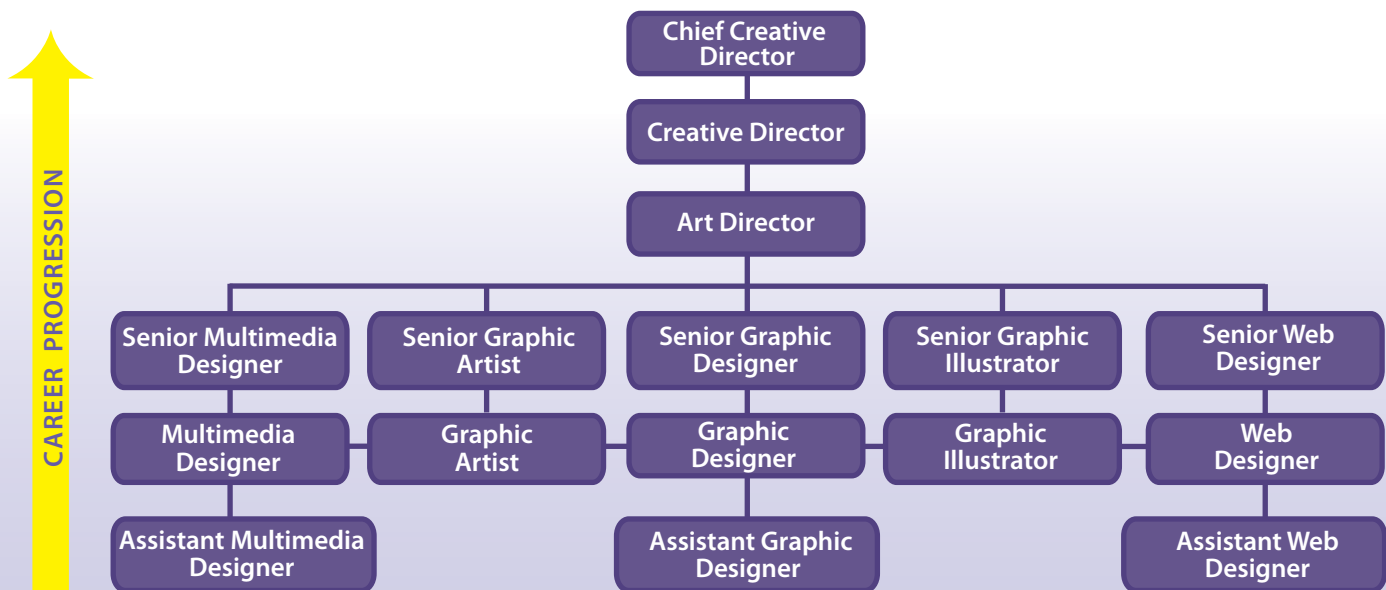
### WORK ENVIRONMENT

Persons working in this field may be self-employed or salaried and may work as part of a team. This career path typically involves sitting and working for long hours on a computer. Persons working in this career might work on advertisements, newsletters, publications, digital media, film, cartoons, video games, web or app design, product packaging interior or architectural design and apparel design among others.

### EDUCATION & TRAINING

An entry level position in this career path typically requires an Associate's degree or Level 4 NVQJ certification in the areas of visual arts, graphic design, illustration, digital media, fine arts, web design or related areas along with a portfolio of work. More advanced certification and experience are then typically required for progression. However, persons who are self-taught or have lower levels of qualification may enter the career path as freelancers or salaried employees with a strong portfolio of work. Early prospects may begin preparing for the field by honing skills in visual arts, graphic design, illustration, digital media, fine arts, web design or related skills at the secondary and post-secondary level and may seek an apprenticeship to gain experience.

## GRAPHIC DESIGN PATHWAY



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# MOBILE APPLICATION DEVELOPER

## DESCRIPTION

Mobile Application Development (or mobile development) is how apps from high-profile apps like Instagram to the apps that come pre-installed on smartphones, tablets, and increasingly, PCs (e.g., the camera app or the calculator) to fun indie game. Mobile application development is similar in many ways to traditional software development, but app developers have to think about many more hardware specifications and configurations because their products need to work the same way on devices that can be very different. Mobile developers specialize in a specific platform; they may further specialize in a specific development area like games, business applications, or health applications.



### WORKING CONDITIONS:

- Freelancing
- Large/small companies
- Equipment
- Comfortable environment

### SKILLS REQUIRED:

Major skills you should have as a Mobile Application Developer:

- Extensive knowledge about mobile app development
- Deep knowledge of mobile platforms on which the app runs
- Proficiency with writing automated tests
- Experience with profiling and debugging mobile applications
- Strong knowledge of architectural patterns
- Communication
- Interpersonal
- Time management

### EDUCATION & TRAINING

A degree and a technical background should be required to gain a Software Developer role:

- BSc degree in computer science or related field
- Bachelor's degree in a science or engineering field preferred
- Bachelor's degree in computer science, software engineering, management information science, or related field
- Bachelor's degree in computer science, engineering or mathematics.

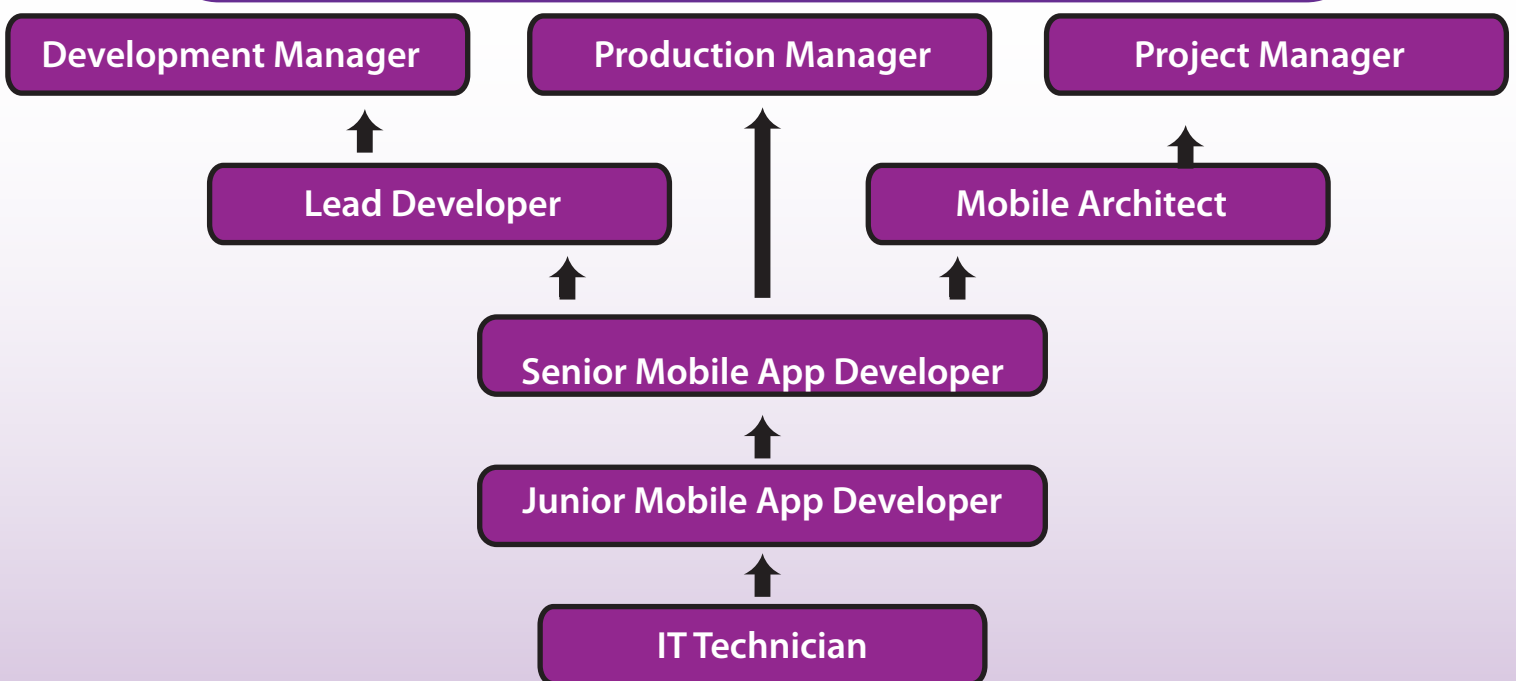
### TASK & RESPONSIBILITIES

- Researching, designing, implementing and managing software programs.
- Testing and evaluating new programs.
- Identifying areas for modification in existing programs and subsequently developing these modifications.
- Writing and implementing efficient code.
- Determining operational practicality.
- Developing quality assurance procedures.
- Deploying software tools, processes and metrics.
- Maintaining and upgrading existing systems.
- Working closely with other developers, UX designers, business and systems analysts.

### JOB OUTLOOK:

The mobile device market is growing at breakneck speeds. This growth is feeding the increased demand for mobile application developers. As smartphones and tablets change the way people communicate, do business, shop, and access news & entertainment, the demand for new and innovative mobile applications will continue to rise as mobile devices become more capable, and an increasing number of traditional businesses develop apps to promote their products and services. The rapid growth of mobile is creating a host of employment opportunities for both corporate and freelance mobile application developers.

## Mobile Application Developer Pathway



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# ROBOTICS

## DESCRIPTION

Robotics is a branch of engineering that involves the conception, design, manufacture, and operation of robots. This field overlaps with electronics, computer science, artificial intelligence, mechatronics, nanotechnology and bioengineering.



### SKILLS REQUIRED:

- Creativity
- Problem solving skills
- Computer skills
- Mathematics skills
- Mechanical skills

### EDUCATION & TRAINING

A strong aptitude for the natural sciences is required to gain acceptance into a relevant robotics engineering degree program. High school students should concentrate on physics and mathematics in particular, with advanced studies in algebra and trigonometry where possible.

## Robotics Pathway

Robotics Process Automation Personnel

Robotics Engineer

Robotics Specialist

Robotics Technician

Robotics Apprentice/Intern

# Social Media Manager

## DESCRIPTION

Social media marketing managers are responsible for developing a web-based marketing strategy for their company. They may collaborate with others to help clarify the brand image and establish guidelines for the type of content that will be posted online. Social media marketing managers may **oversee the staff that produce visual and written materials to post online** or they may be directly responsible for producing this material and posting it themselves.



### KEY COMPETENCIES

Social media marketing managers focus on ensuring that content posted online **are appropriate and effective.**

Skills needed:

- They must have strong computer skills
- They must be familiar with different social media platforms.

### EDUCATION & TRAINING

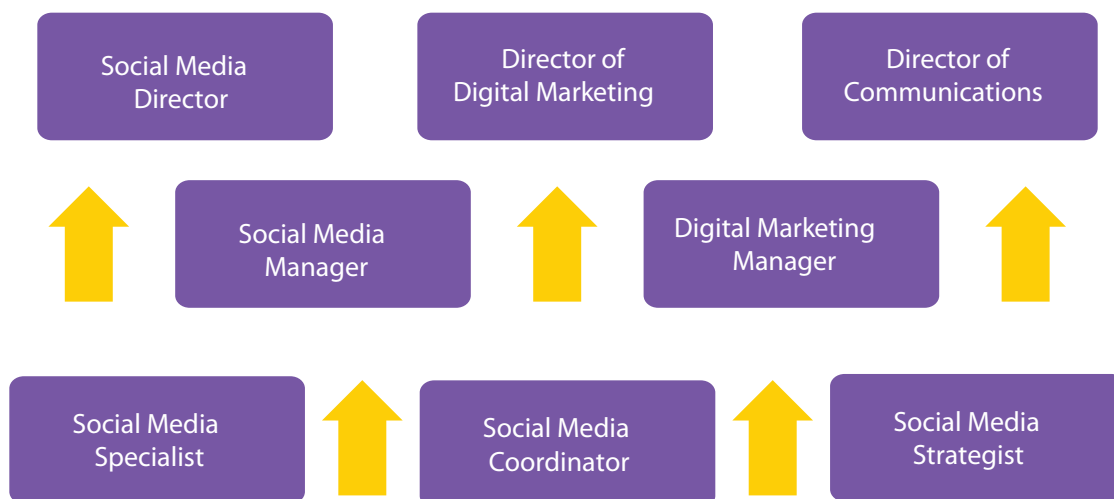
Social media marketing managers should have a bachelor's degree in a relevant field, such as marketing.

Employers may also look for applicants who have training or experience with photo-editing software. Since social media marketing managers can spend a lot of their time online, it is also an asset if they have experience with HTML and computer programs such as Dreamweaver and Photoshop.

### JOB OUTLOOK

Social media marketing managers are included with the U.S. Bureau of Labor Statistics (BLS) occupational listing for marketing managers. According to the BLS, an 8% rate of job growth is expected for marketing managers from 2018 to 2028.

## Social Media Manager Pathway



# Computer Repairs Technician

## DESCRIPTION

Setting up hardware and installing and configure software and drivers. Maintaining and repairing technological equipment (e.g. routers) or peripheral devices. Installing well-functioning LAN/WAN and other networks and manage components (servers, IPs etc.).



## EDUCATION & TRAINING

To be a computer repair technician requires at least a high school diploma. However, more employers now want to hire technicians that have a two-year Associate Degree in Computer Hardware Technology from an accredited college, or a diploma from a technical institute.

## WORK ENVIRONMENT

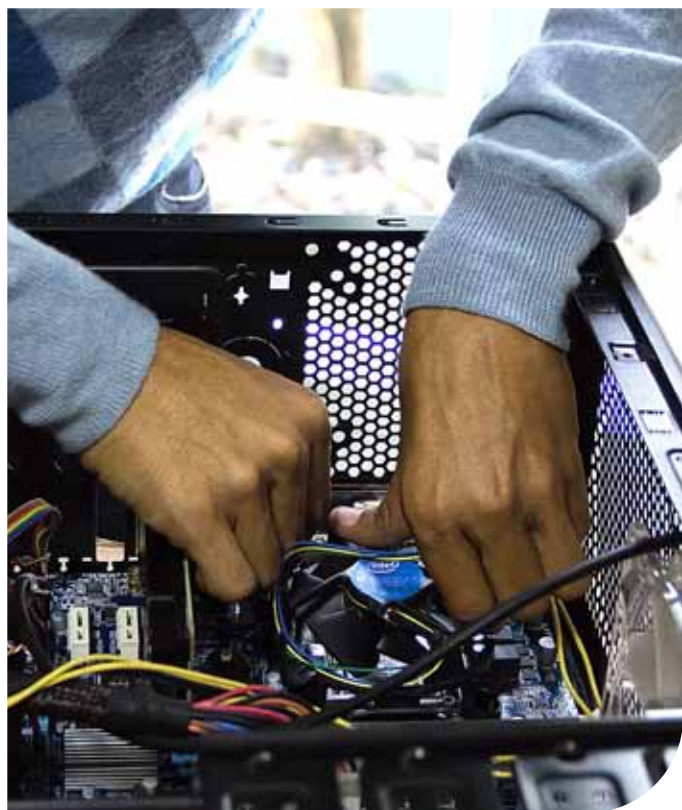
- Extended hours sitting at a desk.
- Using computers, printers, phones and other office equipment.
- May be required to work after hours or on weekends.
- May have to pick up heavy equipment to perform hardware installations.

## KEY COMPETENCES

1. Computer Diagnostics
2. Active Listening
3. Communication Skill
4. Problem Solving Skills
5. Software and Hardware Expertise
6. Professionalism
7. Operating Systems
8. Inquisitiveness.

## JOB OUTLOOK

The computer repair technician job market is expected to grow by 11.3% between 2016 and 2026.



## Computer Repairs Technician

Computer Engineer (Hardware)

Computer Network Architect

Computer Systems Administrator

Computer Support Specialist

Computer Repairs Technician

Desktop Support Technician

IT Intern



Help Desk Computer Support



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# Web Analysts

## DESCRIPTION

Web Analysts create procedures for data management, data analysis, web projects, data integrity and Web server security. Web Analysts usually work as part of a web development team.



## KEY COMPETENCES

- Employers are looking for Web Analysts with the following skills.
- Analytical skills
- Decision-making skills
- Management Skills
- Problem Solving Skills.
- Data Visualization Skills.
- Adaptation Skills.
- Strong Communication Skills.
- Political Skills.
- Technical Skills.

## WORKING CONDITIONS

Computer systems analysts may work in a range of industries, such as healthcare, private business, and government agencies. They can work directly for a single corporation or be employed by a computer consulting firm.

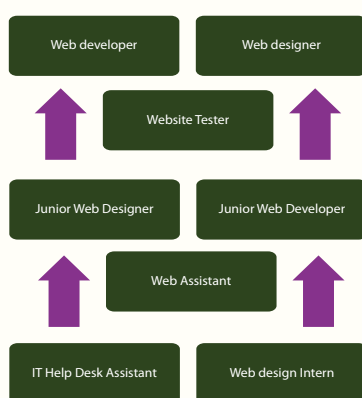
## SKILLS

- Knowledge of engineering principles
- Ability to create and read technical drawings
- IT skills
- Attention to details
- Communication skills
- Teamwork
- Organisation
- Time management
- Mathematical skills
- Spatial and design skills
- Problem solving,
- Creativity and innovation
- Knowledge of health and safety requirements in order to design in line with industry standards.

## Web Analyst



## Website Tester



## EDUCATION & TRAINING

A bachelor's degree is needed for most entry-level jobs. Most data analysts will have degrees in fields like mathematics, finance, statistics, economics, or computer science. Strong math and analysis skills are needed.

Also, you may find that experience in other jobs will help you become a web analyst. In fact, many web analyst jobs require experience in a role such as web developer. Previous career experience in roles such as internship or business analyst can also be considered.

## JOB OUTLOOK

According to the Bureau of Labour Statistics (BLS), employment of computer and information research scientists, including data analysts, is projected to grow 11 percent from 2014 to 2024, faster than the average for all occupations.



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# Software Programmers

## DESCRIPTION

Software Programmers, are also known as Software Engineers or Systems Programmers, Computer Programmers. They are tasked with designing and creating software programs, integrating systems and software, training end-users, analysing algorithms, modifying source-code, writing system instructions, debugging, and maintaining operating systems.



## EDUCATION & TRAINING

A degree in Computer Science or Computer Programming and a technical background should be required to gain a Software Developer role. Degrees in the following subjects should be highlighted as particularly advantageous:

- Computer Science
- Computer Software Engineering
- Software Programming and Development
- Engineering
- Mathematics
- Electronics
- Physics
- Java, C++, SQL, C#, and HTML experience.

## KEY COMPETENCES

- Coding skills
- Excellent Communication Skills
- Task management
- Critical thinking Skills
- Interpersonal skills
- Problem solving skills
- Punctuality
- Teamwork and collaboration skills
- Adaptability skills
- Work ethic
- Analytical Skills
- Aptitude for learning new technology.
- Deadline driven.

## WORKING CONDITIONS

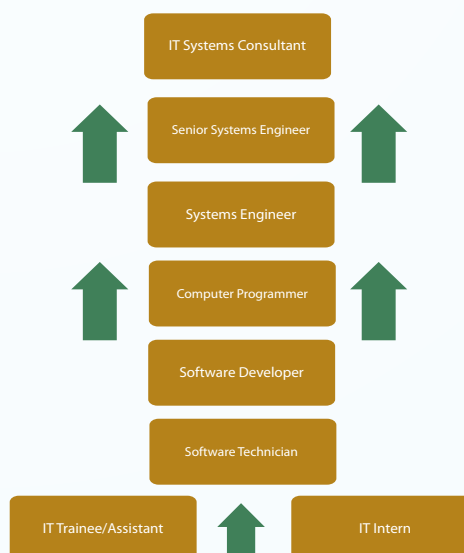
Software developers usually work in an office setting, though many can work in a remote setting since they perform most duties on a computer.

Most of them work at least 40 hours per week during regular business hours with some nights and weekends to meet deadlines or resolve unexpected technical issues.

## JOB OUTLOOK

Employment of software developers is projected to grow 22 percent from 2019 to 2029, much faster than the average for all occupations. Software developers will be needed to respond to an increased demand for computer software.

## Computer Programmer



# Search Engine Optimization Specialist

## DESCRIPTION

A Search Engine Optimisation specialist (SEO) uses digital analytics and marketing skills to transform a company's online presence. As an SEO specialist, you would identify strategies, techniques and tactics to increase the number of visitors to a website and obtain a high-ranking placement in the results page of search engines. By generating more leads, new opportunities will generate growth and profit for the business. Other titles for SEO are online marketer or digital account executive.



## TASK & RESPONSIBILITIES:

When customers are searching for specific services online through Google or other search engines, SEO responsibilities is to ensure that the company is listed in the search engine results pages (SERPs), so that the information on the company can be easily found.

- A genuine interest in SEO and/or digital marketing
- Evidence of a strong personal online profile, e.g. a blog, website or connections and interactions on various social media platforms
- A commitment to keeping your technical skills and knowledge up to date
- An inquisitive mind which drives you to understand Google's algorithms and predict what changes might be coming
- A good understanding of search engines
- An ability to understand social media platforms and how to use them to distribute content, gain more links and build successful campaigns
- A good understanding of PR and how to get the right messages out there
- An understanding of how customers search, where they search and why they purchase something online
- A good understanding of the wider marketing context
- Strong analytical skills for understanding ranking algorithms
- Excellent communication skills to educate, inform, manipulate and mediate across a number of stakeholders in an organisation
- An understanding of, or experience of, HTML coding, and preferably JavaScript and PHP (PHP: Hypertext Pre-processor)
- Proficiency in Microsoft Office and an excellent knowledge of Excel
- Some experience and knowledge of web hosting.

## EDUCATION & TRAINING

This area of work is open to all graduates but a degree in a related area such as IT, business and technology or marketing may be particularly useful. Entry into graduate-level SEO/marketing roles or foundation degree is possible but you will need to have substantial, relevant experience and technical skills.

- Postgraduate qualifications in digital marketing
- Professional Diploma in Digital Marketing
- Professional Diploma in Data-Driven Marketing

## JOB OUTLOOK

As an SEO specialist, you have various career paths open to you. You can start in a junior role on an internship and then move to SEO executive. As your career progresses you may become an SEO manager or account manager, then head of SEO to head of digital. However, you could equally move from SEO executive to a copywriter role and move into a broader digital marketing route.

Progression to more experienced roles such as SEO manager could happen within two to five years if you work for a company that offers on-the-job training.

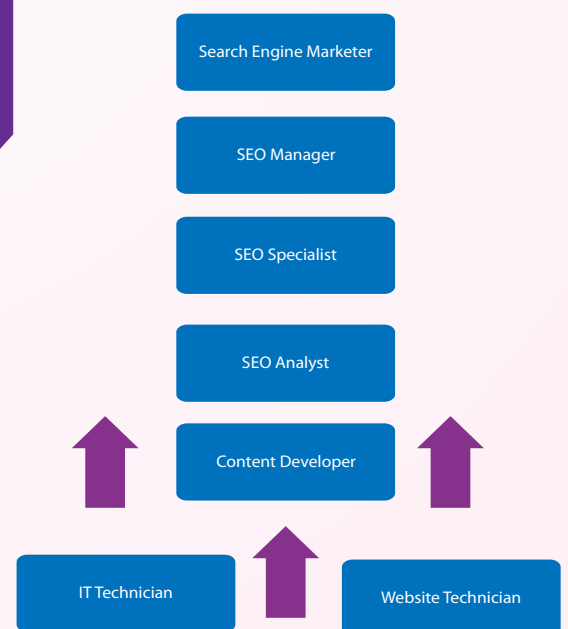
## SKILLS

- Critical Thinking.
- Speaking & Writing Ability.
- Technical & Programming Skills.
- Social Skills.
- Analytics Skills.
- Excel Skills.
- Drive, Motivation & Adaptability.
- A Sense of Humor.

## WORKING CONDITIONS

- Most companies and organisations with an online presence, especially those selling products and services, will require some level of help with their SEO. Many SEO specialists choose to go freelance, or work in a small consultancy.
- Large companies working hours are normally 9am to 5pm, or on occasional evenings and weekends.
- Part-time work and job sharing is available
- Flexible work patterns
- Working from home may be possible

## Search Engine Specialist



# Computer Aided Design Specialist

## DESCRIPTION

Computer-aided design (CAD) technicians use their engineering, IT and mathematical knowledge and skills to design buildings, machinery, products and parts.

They work with architects and, design engineers to understand the requirements of their initial designs and turn them into accurate and detailed technical drawings in 2D and 3D models. These drawings are used to creating the blueprints for manufacturing and instructions for installation.



## TASK & RESPONSIBILITIES:

CAD technician/draughtsperson is responsible to:

- Create high-quality detailed technical drawings and plans based on designs supplied by architects and designers and make modifications to existing drawings
- Use a variety of CAD software programmes to create designs in 2D and 3D models
- Liaise with architects, engineers and designers to understand their design requirements and provide technical advice to manufacturing and construction technicians
- Provide accurate, detailed and to scale drawings
- Ensure drawings are compliant with industry and health and safety standards and protocols
- Calculate costs and apply knowledge of materials and engineering principles to check feasibility of manufacture and construction of the product
- Conduct site visits and surveys when required
- Present working drawings for use in all stages of the project, tender, manufacture/construction and installation
- Produce installation and manufacturing documentation
- Maintain accurate records.

## EDUCATION & TRAINING

- Relevant degrees include all engineering disciplines, architecture, manufacturing, IT and design.
- Graduates can find entry-level roles as a CAD technician/draughtsperson to gain industry experience before progressing to other engineering roles such as design engineer, civil engineer and architectural professions.

## JOB OUTLOOK

People working as a CAD (computer-aided design) specialist have different job prospects depending on where they work.

## WORKING CONDITIONS

Working hours are typically 9am to 5pm, Monday to Friday, but longer hours and overtime may be required to meet project deadlines.

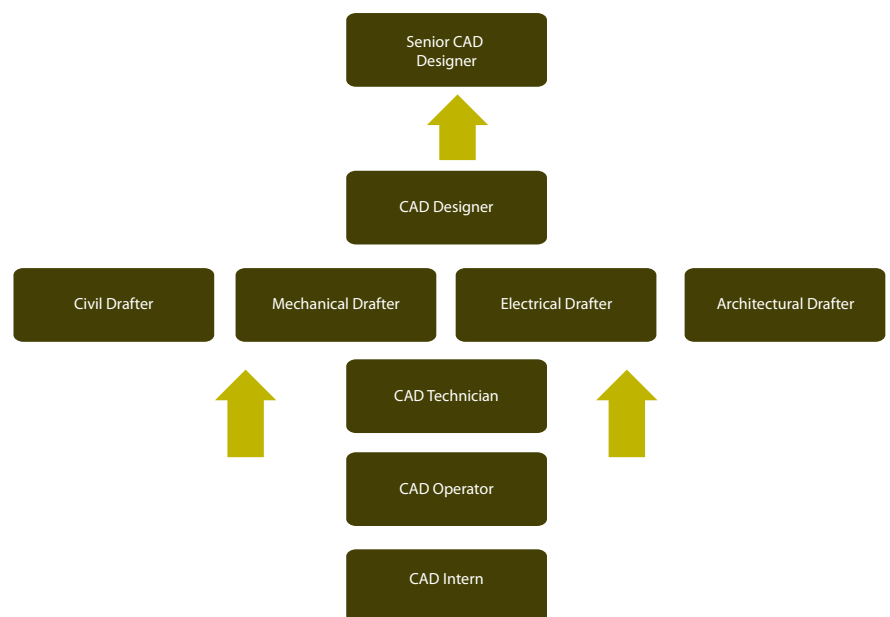
Opportunities for freelance work are available.

CAD technicians usually work in Engineering, Manufacturing, and Construction also in the Creative industries.

## SKILLS

- Knowledge of engineering principles
- Ability to create and read technical drawings
- IT skills
- Attention to details
- Communication skills
- Teamwork
- Organisation
- Time management
- Mathematical skills
- Spatial and design skills
- Problem solving,
- Creativity and innovation
- Knowledge of health and safety requirements in order to design in line with industry standards.

## Computer Aided Designer



# Network Administrator

## Description

Network administrators are responsible for maintaining computer networks and solving any problems that may occur with them. Typical responsibilities of the job include: installing and configuring computer networks and systems, monitoring computer networks and systems to identify how performance can be improved.



## KEY COMPETENCIES

1. Patience
2. IT and technical skills
3. Problem-solving skills
4. Interpersonal skills
5. Enthusiasm
6. Teamwork
7. Initiative
8. Attention to details

## WORK ENVIRONMENT

Although many network and computer systems administrators are employed by firms in the computer systems design and related services industry, they work in a variety of settings. Some might administer systems and networks for financial firms, and others work in hospitals or local government offices.

## EDUCATION & TRAINING

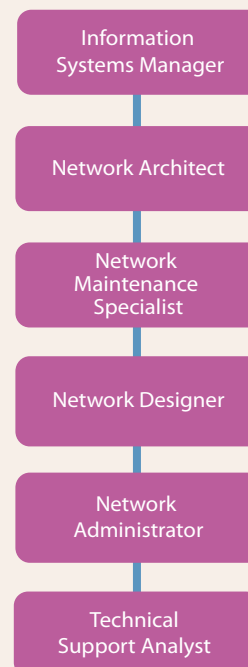
Prospective network administrators need at least a certificate or associate degree in a computer - related discipline. Most employers require network administrators to hold a bachelor's degree in computer science, information technology, or a comparable area.

## JOB OUTLOOK

Employment of network and computer systems administrators is projected to grow 4 percent from 2019 to 2029, about as fast as the average for all occupations. Demand for information technology (IT) workers is high and should continue to grow as firms invest in newer, faster technology and mobile networks.



## Network Administrator



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# Algorithm Designer

## Description

Algorithm design is the branch of discrete mathematics and computer science that deals with the research, development and implementation of sequential and asynchronous algorithms.



### KEY COMPETENCIES

1. Problem solving skills
2. Mathematical competencies
3. Communication
4. Reasoning
5. Accuracy
6. Critical thinking skills
7. Computational aptitude

### WORK ENVIRONMENT

Some algorithm designers work in the computer systems design and related services industry. Others are self-employed. Others work in research labs or major organizations within the IT industry.

### EDUCATION & TRAINING

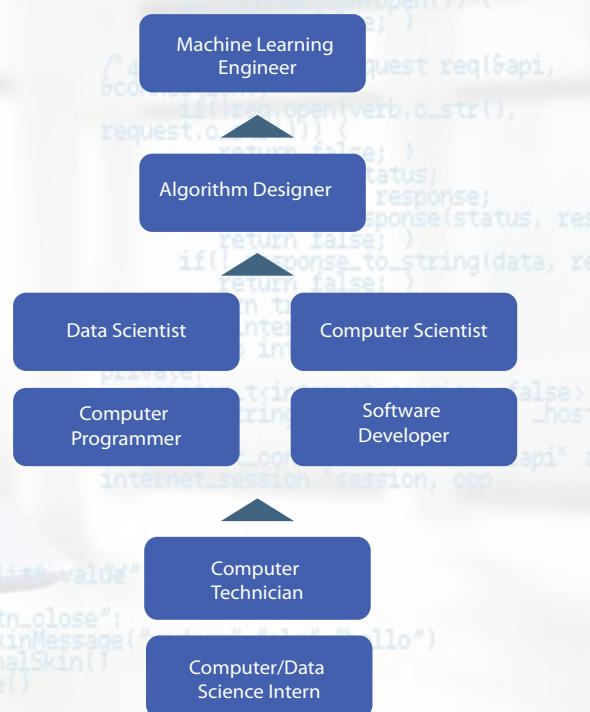
Computer scientists who work as algorithm specialists typically must have a doctoral degree, which can take six to eight years to complete. Individuals pursuing this degree should have good quantitative problem-solving skills and a solid background and love of mathematics.

### JOB OUTLOOK

Navigating and monetizing big data is an important aspect of the future of computer science. Developers' strategic use of algorithms is a fundamental building block to advancements in artificial intelligence, block chain technology, and data mining.



## Algorithm Designer



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# Internet of Things Solutions (IoT) Architect

## Description

An Internet of things (IoT) solutions architect is a professional role involved in developing practical uses and applications of internet of things technology. The IoT solutions architect typically works with engineers and salespeople to facilitate process development.



## KEY COMPETENCIES

1. Computer and operating systems
2. Infrastructure and engineering design
3. DevOps (software)
4. System security measures
5. Business analysis
6. Database management
7. Cloud development
8. Web platforms

## WORK ENVIRONMENT

A solutions architect is generally located within a large company and work alongside other professionals to bring their plans to life. They usually begin as technical architects and as they experience more organizational concepts within the company, will become promoted to the role.

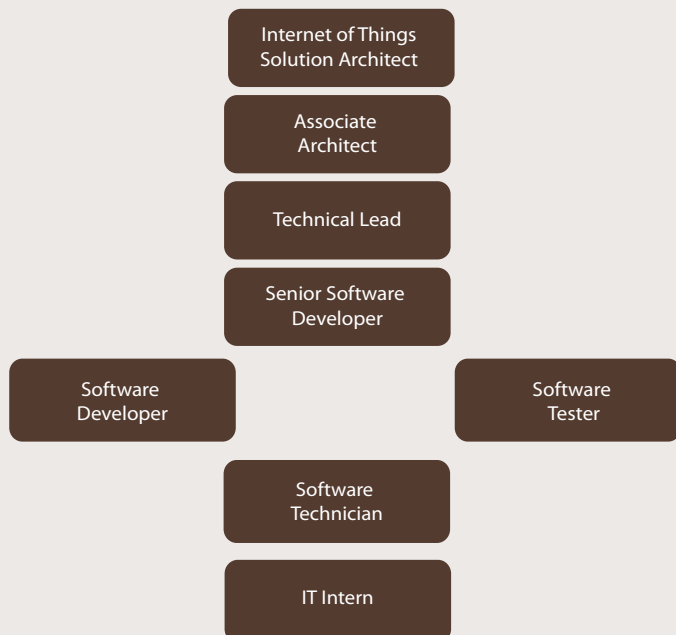
## EDUCATION & TRAINING

IoT developers are often required to obtain at least an undergraduate degree in order to land even an entry-level position. Those with a background in engineering, software development, or computer science specifically will be able to most effectively translate their knowledge to the IoT field.

## JOB OUTLOOK

A career in IoT is quite promising for those who have innovative thinking and creative abilities and are looking for an exciting work environment, professional development, and higher compensations for IT professionals.

## Internet of Things Solution Architect



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# User Interface Designer

## Description

The user interface designer will be responsible for creating and designing web elements that optimize user interaction and experience. The ideal candidate will understand the differences between user interface design (UI) and user experience (UX) design, and have a creative yet organized approach to tackling problems and creating solutions.



## KEY COMPETENCIES

1. Curiosity
2. Empathy
3. Communication
4. Flexibility
5. Visual communication
6. Collaboration

## WORK ENVIRONMENT

Because both UX and UI designers rely on computers for completing various tasks, most designers work in offices or studios. During any given day, they may attend meetings with other creative individuals, management, and supervisors to ensure work is going as expected and on deadline.

## EDUCATION & TRAINING

Individuals will usually need a bachelor's degree in applicable disciplines, such as computer science, information technology, or human factors/usability, to work as user interface designers. A strong background in full lifecycle management will be beneficial.

## JOB OUTLOOK

User experience design is a great field for job-changers because it welcomes transferable skills and varied life experiences. Walk into a room full of UXers and you'll likely encounter professionals with backgrounds in graphic design, web design, marketing, psychology, and more.

## User Interface Designer

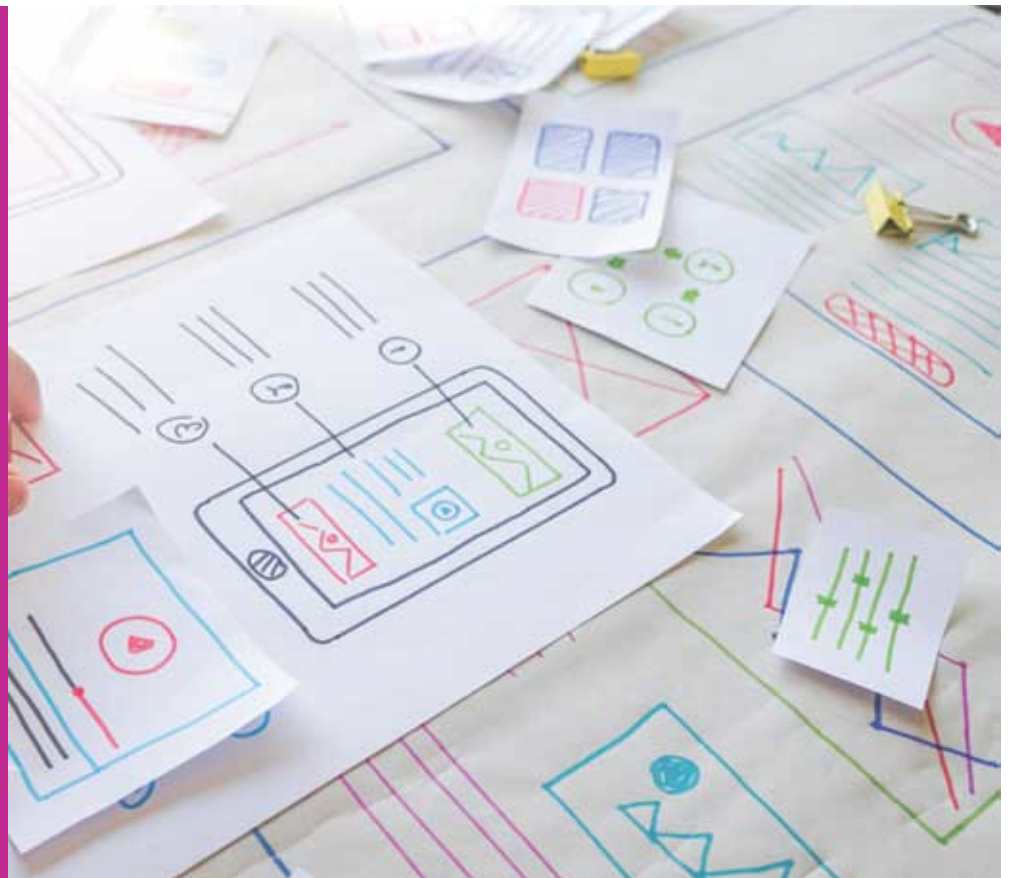
User Interface Designer

User Microsite Designer

Client Experience Designer

User Experience Researcher

Customer Service Representative



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# Video Production Specialist

## Description

Video production specialists are involved in all aspects of the video production process, including planning, creating, processing, uploading, editing, and managing videos for a wide variety of distribution channels.



## KEY COMPETENCIES

1. Editing skills
2. Creativity
3. Attention to details
4. Communication skills
5. Problem solving skills
6. Listening skills

## WORK ENVIRONMENT

The video production specialist works in the field, and in post-production to edit, manipulate and prepare the final video. This may be in a lab, a studio, a movie set or a remote location.

## EDUCATION & TRAINING

The typical preparation for a career as a video producer would be a bachelor's degree program in business administration or one of the performance arts. A number of institutions offer exposure to both theatrical and financial worlds by offering degree programs in arts management.

## JOB OUTLOOK

Overall employment of film and video editors and camera operators is projected to grow 18 percent from 2019 to 2029, much faster than the average for all occupations. However, more film and video editors will be required because of an increase in special effects and overall available content.

## Video Production Specialist



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