



Career Options

A degree from the Luddy School of Informatics, Computing, and Engineering prepares you for a technology-related career in a variety of industries and sectors. This list provides an overview of some career options in technology, a growing, rapidly innovating industry where opportunities unheard of today could become the most sought-after options of tomorrow.

Each career option lists examples of companies and organizations that hire similar positions. The list of employers is not comprehensive but is designed to demonstrate the variety of employers and industries that hire for technology-related positions.

Application Developer

Application developers **create custom software solutions to meet clients' needs**. Application developers often build applications from scratch or combine customized specifications with existing off-the-shelf software. Some specific positions within the application development field include project managers, analysts, designers, programmers, and quality assurance specialists.

CIGNA, HUMANA, IMAGE MATTERS, NORTHWESTERN
MUTUAL, OFS BRANDS

Big Data Engineer

Big data engineers **extract knowledge from patterns in text and images**. Big data engineers understand the specialized systems necessary for managing and processing big data, as well as specialized algorithms and techniques such as “deep learning.” They also develop, maintain, and evaluate the big data collected and need a creative eye for finding trends.

EMC, IBM, MICROSOFT, ORACLE, SAP

Business Analyst

Business analysts serve as the connection between business units, technology teams, and support teams of a company, facilitating the business' reliance on technology. This person must **understand both the technology and business sides** of an organization, and identify and analyze business intelligence, data, and trends to make recommendations. Business analysts need a thorough understanding of how to interpret customers' business needs and translate them into application and operational requirements.

CROWE HORWATH, DELOITTE, EY, GENERAL MOTORS,
HURON CONSULTING GROUP, MEDPRO, TATA
CONSULTANCY SERVICES



Database Administrator

Database administrators (DBAs) **maintain the security and accessibility of company databases** to ensure information is secure from unauthorized access while also providing expertise in the design, implementation, and maintenance of database management systems. DBAs also write and test modifications to the database structure by installing upgrades, writing and debugging programs, or restoring data.

BLOOM INSURANCE AGENCY, INDIANA OFFICE
OF TECHNOLOGY

Industrial Automation Engineer

Automation is increasingly used in manufacturing to increase productivity and quality. Guided by industrial automation engineers, robotics and computer-controlled systems are changing the way products are made. Industrial automation engineers focus on **finding ways to make the process of automation more efficient through the design and development of software** that can best take advantage of the latest technology.

CUMMINS, GENERAL ELECTRIC

Information Security Analyst/Consultant

Information security analysts **plan and implement security measures to protect organizations' networks and databases** from security breaches. They also implement preventative measures, such as backing up and restoring data, developing security practices, and utilizing encryption and firewall programs.

ANTHEM, CROWE HORWATH, GENERAL MOTORS, PWC,
SYNOPSIS

Internet of Things (IoT) Engineer

The Internet of Things revolution is being ushered in by dramatic increases in sensors and connected devices. Engineers skilled in appropriate technologies—embedded systems, sensors, control, and big data—are driving this revolution and shaping the connected future. IoT engineers use skills from a variety of backgrounds to **create the visionary developments** that will make an impact on the ever-changing IoT space.

CISCO, GENERAL ELECTRIC, IBM

Materials Engineer

Materials engineers **develop methodologies and tools for formulations of materials**. They create, validate, and apply new methods to predict the behaviors of materials while evaluating those materials and developing machinery and processes to manufacture materials for use in products that must meet specialized specifications.

COOK, CUMMINS, GENERAL ELECTRIC, JOHN DEERE

Network Engineer

Network engineers are **responsible for designing and operating networks, and customizing them for a company's needs**. Our age of software defined networking (SDN) involves an increasing amount of network-centric programming, and network engineers need the skills to take on a variety of tasks while also serving the needs of their customers and working as a team across different groups in an organization.

ARCELORMITTAL, AT&T, AVAILITY, CIGNA, SMITHVILLE
FIBER

Programmer

Programmers write code, often in collaboration with software developers, to **create the programs developers have designed**. In addition to writing code, programmers must be able to debug programs, update existing programs, and utilize a variety of programming languages. In web programming, programmers create applications that allow end-users to complete tasks on the web, such as buying products or placing orders with a restaurant.

BLOOM INSURANCE AGENCY, JASPER ENGINES &
TRANSMISSIONS, LEGISLATIVE SERVICES AGENCY, C.H.
ROBINSON

Project Manager

Project managers are responsible for **planning and overseeing projects to ensure they are completed in a timely fashion and within budget**. Project managers plan and designate project resources, prepare budgets, monitor progress, and keep stakeholders informed the entire way. This is all done within the confines of a company's goals and vision. Project managers are needed on a wide variety of projects, including construction, IT, HR, and marketing.

DELOITTE, EY, KPMG, BAIN & CO., PWC, ACCENTURE,
WEST MONROE PARTNERS



Quality Assurance Analyst/Engineer

Quality assurance analysts/engineers are responsible for **identifying, analyzing, and documenting problems with software, programs, and other technology**. QA analysts/engineers may develop and write testing programs to find bugs, or participate in product design and review to provide input on function, compliance, designs, or possible problems.

AVAILITY, CIGNA, EPIC, EXTENSION HEALTHCARE, TATA CONSULTANCY SERVICES

Software Developer/Engineer

Software developers produce computer-based goods and services for consumers and companies. They are in charge of **designing programs, instructing programmers who write the programs, and providing upgrades and maintenance** to the software. They also coordinate production of software products from choosing the content providers, assembling graphics creators, and working with programmers through the actual assembling, producing, and distributing of the final product.

AMAZON, AT&T, BLUE HORSESHOE SOLUTIONS, CERNER, GENESYS, LIBERTY MUTUAL, ORBITZ, SEARS, TARGET

Support (Application, Database, Desktop, Software, Technical)

Support professionals are responsible for providing help desk or desktop support to company employees. Desktop support specialists often **work on hardware and software issues** within a company, determining integration and installation of equipment, selecting vendors, and planning support services.

ELI LILLY, EXTENSION HEALTHCARE, GENESYS, GEOVISION, OPS BRANDS

Systems Engineer

Systems engineers **design and coordinate large, complex projects** typically involving IT infrastructure, hardware, and system software to ensure that they all work together properly. Systems engineers may collaborate with other engineers or software developers to select appropriate design solutions for a system, and they may be responsible for design specifications, installation, security, upgrades, and troubleshooting of systems.

ARCELOMITTAL, CERNER, PROGRESSIVE INSURANCE, REGENSTRIEF INSTITUTE

Systems Analyst

Systems analysts **study the needs and limitations of a company's computer systems**, and provide recommendations for upgrades, configurations, and installations that will help the company operate more efficiently.

CNO FINANCIAL GROUP, HERMAN MILLER, KIMBALL INTERNATIONAL, TEXTRON

Technology Consultant/Analyst

A technology consultant works in partnership with clients, **advising on how to use information technology to best meet their business objectives or overcome problems**. Consultants work to improve the structure and efficiency of an organization's technology systems. Technology consultants may be involved in a variety of activities, including marketing, project management, client relationship management, and systems development.

ACCENTURE, BLUE HORSESHOE SOLUTIONS, CHASE, CIBER, CROWE HORWATH, ENVISTA, PERFICIENT, PROTIVITI

User Experience (UX) Designer

User experience designers are responsible for **understanding, evaluating, and improving how users interact with a particular system**, such as a website or application. UX designers may also be involved in decisions involving marketing, finance, customer support, interface design, and any other areas that may impact the user's experience with the product.

BLACKBAUD, EBAY, NATIONWIDE, SALESFORCE

Web Developer

Web developers are **programmers who create and design websites to meet the needs and expectations of clients and the website's audience**. Web developers often create sites from scratch, and they are often responsible for technical aspects of the site, such as performance and traffic capacity, as well as design, graphics, and layout. Some of the programming languages that web developers currently use are Java, C++, C#, Perl, PHP, HTML, CSS, JavaScript, and MySQL.

CROWE HORWATH, IMAGE MATTERS, KRONOS, XTERN