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.

**AI ANALYST**

Artificial Intelligence (AI) Analysts typically have titles such as Information Security Analysts, Software Developers, Computer and Information Research Scientists, Digital Forensics Analysts or Quality Control Analysts. A person in this field must analyze problems to develop solutions involving computer hardware and software which often involves designing computers and the software that runs them. A person should stay current on technology trends and how to apply new technology in various settings. This involves analyzing information and evaluating results to select the best solution. Writing software, setting up functions, entering data and processing information are necessary skills.

**EXAMPLES:** CAPGEMINI, THE BRITE GROUP, APPEN, MARCECO LTD., ZENDESK, NVIDIA

**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.

**EXAMPLES:** CIGNA, HUMANA, IMAGE MATTERS, NORTHWESTERN MUTUAL, OFS BRANDS

**CYBERSECURITY**

Persons in the Cybersecurity field may hold a wide array of titles such as: Intelligence Analyst, Network Security Analyst/Engineer, Cyber Strategy Consultant, Cyber Security Engineer, or Penetration Tester. Cybersecurity specialists gather, analyze, or evaluate information from a variety of sources and use this data to anticipate and attempt to prevent crime activities or terrorist events. This typically involves preparing comprehensive reports and presentations, with visual aids, based on intelligence information gathered and analyzed. A key part of this industry is the ability to validate known intelligence with data from outside sources and identify and interpret trends and patterns. Many of these occupations involve coordinating, supervising, managing and training others therefore teamwork and leadership are must-have qualities.

**EXAMPLES:** FBI, CIA, APPLE, GENERAL MOTORS, CAPITAL ONE, LOCKHEED MARTIN, BOEING, MARINE CORPS, NORTHROP GRUMMAN

**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.

**EXAMPLES:** ABBvie, 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.

**EXAMPLES:** CROWE HORWATH, DELOITTE, EY, GENERAL MOTORS, GRAINGER, HURON CONSULTING GROUP, MEDPRO, TATA CONSULTANCY SERVICES
CLOUD ENGINEER
A cloud engineer is responsible for designing, implementing, and maintaining cloud-based infrastructure and services. They work with cloud computing platforms such as Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform (GCP), configuring and optimizing resources to meet the organization’s needs. Cloud engineers deploy applications, manage storage solutions, set up networking, and ensure security and compliance standards are met. They also monitor performance, troubleshoot issues, and automate tasks to improve efficiency and scalability within the cloud environment. Overall, cloud engineers play a critical role in enabling organizations to leverage the benefits of cloud computing for agility, scalability, and cost-effectiveness.

AMAZON, GOOGLE, RESULTANT, WEST MONROE

CONTROL SYSTEMS ENGINEER/ANALYST
A Control Systems Engineer Analyst is tasked with analyzing and optimizing control systems within various industries. They utilize their expertise in engineering principles and control theory to assess the performance, stability, and efficiency of existing control systems. Their responsibilities include gathering data, conducting simulations, and performing statistical analysis to identify areas for improvement or potential issues within control systems. Control Systems Engineer Analysts collaborate with multidisciplinary teams to develop strategies for enhancing system performance, implementing software or hardware upgrades, and ensuring regulatory compliance. Additionally, they may design and validate algorithms, develop predictive models, and provide technical support for troubleshooting and resolving control system-related issues. Overall, Control Systems Engineer Analysts play a crucial role in enhancing the functionality and reliability of complex control systems across various industries, including manufacturing, aerospace, automotive, and energy. Companies that hire: Ford, Cummins, Tesla, Chevron, Northrop Grumman, Toyota

CUMMINS, CHEVRON, FORD, NORTHRUP GRUMMAN, TESLA, TOYOTA

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, INTEL, INDIANA OFFICE OF TECHNOLOGY, NORTHERN TRUST, ORACLE

EMBEDDED SYSTEMS DEVELOPER
An Embedded Systems Developer specializes in designing, programming, and maintaining embedded systems, which are computer systems integrated into devices to perform specific functions. They work with microcontrollers, sensors, actuators, and other hardware components to develop software that controls the behavior of these systems. Embedded Systems Developers often collaborate with hardware engineers to optimize performance and ensure compatibility. They are responsible for tasks such as writing code in programming languages like C or C++, debugging, testing, and optimizing software for resource-constrained environments. Their work spans various industries, including automotive, consumer electronics, healthcare, and industrial automation, contributing to the development of products ranging from smart devices to automotive control systems.

FORD, GENERAL ELECTRIC, TESLA

FULL STACK DEVELOPER
Full Stack Developers serve as Library Technicians, Machine Operators, Software Developers, Web Developers, and Engineers. A person in this field often analyzes user needs and software requirements to determine feasibility of design within time and cost constraints. Determining and recommending a new system or modification of an existing system might also be included duties. Full Stack Developers also are often asked to consult with customers and others to share project status or proposals. Database management, user interface and web platform development software are important technology skills to possess.

SERVICE NOW, BOSTON CONSULTING GROUP (BCG), INVICTECH INC., SONIC SOFT INC., SUSCO SOLUTIONS, CYBER THINK INC., WEISS TECHNIK NORTH AMERICA, DUNN SOLUTIONS, DELOITTE, CNH INDUSTRIAL

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, GENERAL MOTORS, PWC, SYNOPSYS

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 MEDICAL, 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

OPERATIONS ENGINEER

Operations Engineers perform tasks such as designing, constructing, and testing equipment and procedures.

A person in this field may conduct basic and applied research to evaluate adaptability of materials and then suggest improvements to techniques and/or equipment. Duties might also include planning investigations and writing reports for use by others. This person might also formulate conceptual design of products or systems within constraints of environmental or governmental regulations. Operations Engineers might also be referred to as Industrial Engineers, Aerospace Engineers, Operations Technologists and Technicians, or Nanosystems Engineers.

US GOVERNMENTAL AGENCIES (POST OFFICE, MUNICIPAL COURTS), HDM HYDRAULICS LLC, COMPOUNDING SOLUTIONS, HORIZON REALTY GROUP, KUBOTA MEMBRANE USA CORPORATION

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 or 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
ROBOTIC ENGINEER
A robotic engineer is a professional who designs, builds, and maintains robots. Their responsibilities can vary depending on the specific industry or application, but generally, a robotic engineer may test and troubleshoot for functionality, code to control movements and actions of robots, and work on the development of robotic systems including prototyping and testing among other things.

AMAZON ROBOTICS, DHL, JOHN DEERE, MARINE CORPS, NVIDIA

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.

ACCENTURE, AMAZON, AT&T, CATERPILLAR, GENESYS, LIBERTY MUTUAL, ORACLE, ORBITZ, SEARS, SERVICENOW, TARGET, WALMART & SAM'S CLUB

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.

ARCELORMITTAL, ORACLE, 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, 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, INTELLIAS, 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, UKG

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