COMPUTER SCIENCE

UNDERGRADUATE PROGRAM

Technology continues to push the boundaries of what we thought was possible. Behind every smart-driving vehicle, must-have mobile app, robot, or mission-critical data management system is a computer scientist who made it happen. Computer scientists, software engineers, programmers, and other computing professionals are experts on how technology works and how computing can address even the most complicated and intricate problems.

Our B.S. in Computer Science will provide you with in-depth, hands-on experience in both the theory and application of computing, including artificial intelligence, machine learning, computer security, computational biology, computer vision, parallel and distributed systems, and more. Our world-class faculty use a comprehensive approach to technology that will keep you on the cutting edge of an ever-changing world and prepare you for a variety of career options in both academia and industry.

Interested in an advanced degree? Ask about our Accelerated Master's in Computer Science program.

COMPUTER SCIENCE CAREER OUTLOOK:

- $72,600 average starting salary
- 98% success rate (employed or accepted to grad school within six months of graduation)
- $23 average hourly pay for internships
- Hiring companies include Amazon, Facebook, GM, Google, Information Systems Experts, and JPMorgan

LUDDY
SCHOOL OF INFORMATICS, COMPUTING, AND ENGINEERING

SPECIALIZATIONS

With a degree in computer science you will choose a specialization that consists of 15–22.5 credits.

Artificial Intelligence: AI studies reasoning and learning methods that collect data, analyze it, and make inferences about the real world. Artificial intelligence, machine learning, and data mining provide decision support for physicians, make recommendations to consumers, aid scientists at complex tasks, and provide intelligent user interfaces and knowledge management systems.

Data Science: Data science provides a computer science student with a strong foundation in modeling, managing, and analyzing data. This specialization focuses on the algorithms, programming, and systems expertise to acquire, model, store, search, analyze, mine, and learn for the purpose of extracting knowledge from data.

Foundations of Computer Science: Foundations focuses on the fundamentals of computing theory and structure, including algorithm design and analysis, language theory, various computational models, program verification, database concepts, and more.

Game Design: This specialization is designed for students who want to turn their love of video games into a career in game programming and development. Students develop essential programming and design skills, and gain experience using a variety of tools and game engines, all while learning to work together effectively in a team.

Programming Languages: This specialization focuses on how computer languages are designed and implemented. Students learn to build interpreters that bring the fundamental principles of computation to life and learn to build compilers that translate programs in high-level languages for humans into low-level languages for machines.

Security: Ensuring the world's infrastructure systems are functioning properly and securely is essential for the safety of everything from financial transactions to medical devices and self-driving vehicles. Students will learn fundamentals of systems and networking while focusing on the theory, practice, and tools behind securing these systems.

Software Engineering: This specialization focuses on principles and techniques of software engineering essential for the design and development of software products for different platforms and purposes. Students learn to effectively design, develop, test, debug, manage, and maintain software, and effectively work in teams.

Systems: Systems focuses on understanding machine structure, the internal operation and hardware organization of computers, linking computers into networks, and working in areas such as operating systems and input/output devices.

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