Computer Science

MASTER OF SCIENCE DEGREE PROGRAM

UIC ENGINEERING

UIC offers a world-class computer science education taught by globally recognized experts.

A master's degree from UIC will prepare you to enter the CS field at a higher level—or move into a higher position than you now have.

Worldwide demand for experts in artificial intelligence, machine learning, cybersecurity, software engineering, and other computer science fields continues to grow. The U.S. Bureau of Labor Statistics cites a $131,000 median annual salary for CS jobs and anticipates a 22% increase in positions by 2030, noting that most will require a master's degree.

UIC'S COMPUTER SCIENCE DEPARTMENT RANKING ACCORDING TO CSRANKINGS
(at the time of this writing)

#6   **Web and Information Retrieval**

#14   **Artificial Intelligence**

#16   **Economics and Computation**

#19   **Logic and Verification**

#21   **Natural Language Processing**

UIC's MS program provides a comprehensive foundation in CS and can be completed in three ways.

THESIS OPTION

In conjunction with your coursework, the **thesis option** pairs you with a faculty mentor and gives you the chance to write an original research-based thesis on a topic that interests you. Students have found that the specialization of a thesis makes them more marketable to employers. Thesis experience also is ideal for students who might want to continue on for doctoral study after the MS.

PROJECT OPTION

The **project option** allows you to complete a capstone project with guidance from a faculty advisor, but it does not require a formal presentation or defense. This is a way to delve into a particular application of computer science and showcase your work to potential employers.

COURSEWORK OPTION

The **coursework-only option** allows you to complete all the credits toward your MS degree through our comprehensive selection of computer science courses.

UIC's Academic Strengths

Artificial Intelligence

Machine Learning and Data Mining

Natural Language Processing

Computer Security

Software Engineering

Featured Courses

What will you take as an MS student at UIC? Explore your choices at cs.uic.edu (see the Courses page under the Graduate menu). Here are a few that have captured our current students' attention—and that have proved especially valuable in their careers after UIC.

CS 411 ARTIFICIAL INTELLIGENCE I
This course covers problem representation, rule-based problem-solving methods, and heuristic search techniques. Students explore applications in expert systems, theorem proving, and language understanding. Individual projects are assigned.

CS 426 VIDEO GAME DESIGN AND DEVELOPMENT
Learn about the theory and practice of video game design and programming. Students form interdisciplinary teams to design, build, and demonstrate video games or related interactive simulation environments.

CS 428 VIRTUAL, AUGMENTED, AND MIXED REALITY
Students develop an understanding of virtual reality, augmented reality, and mixed reality environments. Topics include display devices, input devices, tracking, navigation, interaction, collaboration, generating visuals and sounds, software tools, applications, evaluation, and safety.

CS 478 DESIGN OF MOBILE APPS
Through in-class instruction and programming assignments, students become familiar with the design and implementation of mobile applications. Topics span operating systems, object-oriented languages and programming environments for mobile platforms, integration with hardware components, and location-aware applications.

A Step Ahead

Thanks to the strength of our curriculum and UIC's global connections, many MS students are able to get **internships** that help them level up their career planning.

Simran Jumani

Internship: Facebook

Location: Menlo Park, CA

Assignment: Development of machine learning models

Enrichment: Participating in an internal Facebook hackathon and showcasing a prototype

Her perspective: "I was assigned to a manager who guided me throughout the internship and helped me pick the projects that I was most interested in. Interns are treated on par with full-time employees and work on projects that have a direct impact on Facebook's products."

Aishwarya Chevali

Internship: Expedia

Location: Chicago, IL

Assignment: Software development on the multi-item packages team, experimenting with ideas for a new site feature and bringing it to life

Enrichment: Learning how to think about what a customer wants from a travel website

Her perspective: "It is surprising how the slightest changes to a product have a huge impact on the business."
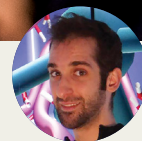
After UIC, where to?

Companies that have hired graduates of the UIC MS in Computer Science program include:

Adobe	Hertz
Amazon	HP
Amazon Web Services	EY (Ernst & Young)
Anthem	Kroger
Apple	LG
Applied Materials	McKinsey & Company
Bitwise Global	Microsoft
Bloomberg LP	Morningstar
Blue Cross Blue Shield	**Nike**
BMW	Optum
Brightstar	Orbitz
Cerner Corporation	PEAK6 Capital Management
Cisco	Raytheon
Cision	Spectralink
Conversant	Verizon
Deloitte	Visa
Facebook	VMWare
Factset	Walmart
Google	Wayfair

Marco Cavallo
Research Engineer, Apple

Marco Cavallo was drawn to UIC by his passion for computer graphics—an area in which UIC's Electronic Visualization Lab is a world leader. He focused his coursework on computer graphics, machine learning, and artificial intelligence, and wrote an original thesis on augmented reality.

Augmented reality is at the core of Cavallo's role in Apple's Technology Development Group, a large team at the company. He is in charge of data visualization tools and machine learning infrastructure to foster computer vision research.

His advice to incoming UIC master's students? Spend your last six months of the program on a thesis or a research assistantship—opportunities that are plentiful at UIC and, in Cavallo's view, crucial in obtaining your first job.

Lydia Tse
Lead solutions engineer, Nike

Lydia Tse joined Nike as a data visualization engineer, and was promoted to lead solutions engineer. She obtained both her bachelor's degree and master's degree in computer science from UIC, and appreciates the strong foundation in computer science and the communication skills she learned here.

At Nike, Tse connects teams to create scalable and reusable solutions. "There are many teams across Nike with really cool goals to accomplish."

Tse notes that computer science is very interdisciplinary, and advises incoming students to establish a strong network with people from many disciplines. "It's an opportunity to learn a wide range of information. After all, teams with individuals from different backgrounds always arrive at the best solutions."

Admissions

Full details on how to apply—including requirements and deadlines—are at cs.uic.edu under the Graduate menu.

Interested in graduate study at UIC? Talk to us. Contact our computer science graduate team with questions or for an informal conversation.

Barbara Di Eugenio, PhD
Professor and Director of Graduate Studies
cs-dgs@uic.edu

Roksana Sady
Program Advisor
cs-grad@uic.edu

Christina Martinez
Student Affairs
ask.csgrad@uic.edu

cs.uic.edu