MS Program

A master's degree in computer science and engineering requires a relatively small investment in time and can lead to greater professional opportunities and the potential for higher earnings. Students studying for a master's degree may also have the opportunity to continue their studies and pursue a Ph.D.

Ph.D. Program

A Ph.D. in computer science and engineering can lead to a faculty position at a leading teaching institution. It can also help secure a position at a research institute or industrial lab. The program involves coursework and independent research culminating in a dissertation.

Financial Support

Financial aid is available to CSE graduate students in the form of fellowships, research assistantships (GSRA), and teaching assistantships (GSI). An attractive feature of our program is that students admitted at the Ph.D. level are guaranteed full financial support for their MS/Ph.D. studies, as long as they are making satisfactory progress, meet required milestones, and maintain a research advisor relationship.

Student Life

CSE Students are highly committed to their studies, yet find time to participate in a wide variety of activities that help them make friends, serve their community, exercise, develop their talents, and take advantage of the many cultural and entertainment events happening in Ann Arbor.

Student Groups

CSEG: Computer Science and Engineering Graduate Student Organization
ECSEL: Women graduate students in CSE
gEECS: Girls in EECS (both undergraduate and graduate students)
Korean EECS Graduate Student Association
Michigan Hackers: Programmers who like to build and break technology

Student Societies

Epeians: The Engineering Leadership Honor Society
NSBE: National Society of Black Engineers
SHPE: Society of Hispanic Professional Engineers
SWE: Society of Women Engineers
TBP: Tau Beta Pi – College of Engineering Honor Society
UMEC: University of Michigan Engineering Council

cse.umich.edu/eecs/graduate/cse/apply/

Computer Science and Engineering

Department of Electrical Engineering and Computer Science

GRADUATE PROGRAMS

MICHIGAN ENGINEERING
UNIVERSITY OF MICHIGAN

Graduate Study in CSE @ Michigan

Graduate study in Computer Science and Engineering at the University of Michigan provides the opportunity for motivated and exceptional students to join world-class faculty in exploring and expanding the field of computing. Housed at a prestigious, world-renowned University with 19 highly-acclaimed schools and colleges, our graduate programs provide virtually limitless possibilities for breakthroughs in multidisciplinary, world-changing research.

The CSE Division in the EECS Department offers two degrees in CSE: a master's degree and a doctoral degree. The master's degree is intended for students desiring to substantially advance their knowledge and skill in the field, with a relatively small investment in time that can lead to greater professional opportunities. The doctoral degree is intended for students desiring a career in research and/or collegiate teaching.

The Michigan Difference: A Unique Research Ecosystem

Research Areas

Artificial Intelligence

AI researchers conduct theoretical, experimental, and applied investigations of intelligent systems. Current projects include research in rational decision making, distributed systems of multiple agents, machine learning, reinforcement learning, cognitive architecture, game theory, natural language processing, machine perception, healthcare computing, and robotics.

Artificial intelligence also builds on ideas from computer science, linguistics, psychology, economics, biology, controls, statistics, and philosophy.

Software Systems

Software systems at U-M focuses on the experimental design, implementation, and evaluation of systems software technologies, which enable the development of a wide range of emerging applications.

Enabling technologies covered by this research area includes biological databases, collaborative computing, compiler and language design, embedded and real-time computing, fault-tolerant computing, file systems, host and network security systems, mobile and distributed systems, network protocols and architectures, operating systems, peer-to-peer storage systems, power-aware adaptation, security policy management, virtual machines, and web databases.

Computer Engineering

Computer Engineering research at the University of Michigan is conducted mainly within the Computer Engineering Laboratory (CE Lab), which comprises a multidisciplinary group of researchers working in the primary areas of chip design, computer architecture, embedded systems, interactions between hardware and software, scalable computing, and secure, trustworthy and reliable digital systems.

Computer Engineering researchers explore theoretical, experimental, and applied aspects of computer design within a broad spectrum of areas ranging from digital logic and VLSI design, to architecture, design automation and validation, reliable and secure design, up to compilers and operating systems.

Theory of Computation

The Theory Group at the University of Michigan conducts research, using the emphasis on mathematical technique and rigor typical of theoretical computer science, across many areas such as combinatorial optimization, data structures, cryptography, quantum computation, parallel and distributed computation, algorithmic game theory, graph theory, geometry, combinatorics, and energy efficiency.

Interactive Systems

The Interactive Systems group at the University of Michigan investigates Human Computer Interaction (HCI), Educational Technology, Multimedia, and Social Computing. HCI is a large and diverse field and the faculty cover many important areas, including strengths in the fundamentals of HCI as well as exciting new technologies and services.

The scientific fundamentals include the domains of human perception and cognition and human factors, social activity, and learning. The applications cover a wide span: user interface design methods, computational sound and music systems, collaboration systems, and educational computing in K-12 settings, with a special emphasis on mobile and ubiquitous computing.

CSE student Meghan Clark is working in the areas of embedded systems, ubiquitous computing, and smart homes. She is currently exploring the potential for a home-to-home network to enable major advancements in quality of life and interactions with the built environment.

CSE student David Adrian is using measurement-based approaches to answer computer security research questions. He recently helped discover the DROWN attack, which is a serious vulnerability that affects HTTPS and other services that rely on TLS.