COMPUTER SCIENCE

Powering discovery and innovation
in engineering, science, and society

JOHNS HOPKINS
WHITING SCHOOL
of ENGINEERING

Our researchers are developing algorithms for real-time computer vision that are fueling a revolution in technology for surgical training, medical imaging, and diagnostics.

DIVERSE, COLLABORATIVE, RESEARCH-FOCUSED PURSUITS

The mission of the **Department of Computer Science (CS)** is to enhance discovery and innovation in engineering, science, and society through research and education. Our research is intensely collaborative and interdisciplinary. Our faculty members' expertise is broad, encompassing core computer science and a range of application areas. As leaders of major universitywide computing-intensive initiatives, they contribute to the advancement of knowledge across disciplines and are making an impact on the world in areas ranging from medical robotics to cybersecurity. Equally important is the preparation of skilled, visionary graduates who are advancing knowledge and fulfilling the promise of today's revolution in computation and artificial intelligence through a diverse and inclusive community.

RESEARCH AREAS

- Theory and Programming Languages
- Systems and Networking
- Computational Biology and Medicine
- Information Security
- Natural Language Processing
- Machine Learning, AI, and Data Science
- Robotics, Vision, and Graphics
- Human–Computer Interaction
- Computer-Assisted Medicine

ASSOCIATED RESEARCH CENTERS AND INSTITUTES

- **Center for Computational Biology (CCB)**
- **Center for Language and Speech Processing (CLSP)**
- **Data Science and AI Institute (DSAI)**
- **Human Language Technology Center of Excellence (HLTCOE)**
- **Institute For Assured Autonomy (IAA)**
- **Institute for Data Intensive Engineering and Science (IDIES)**
- **Johns Hopkins Information Security Institute (ISI)**
- **Laboratory for Computational Sensing and Robotics (LCSR)**
- **Malone Center for Engineering in Healthcare (MCEH)**
- **Mathematical Institute for Data Science (MINDS)**

OUR WORK

Dedicated to solving critical societal challenges through advances in computing technology, enabling new modes of thought, and transforming society. Our research unites the creativity and innovation needed to realize the future's limitless possibilities.

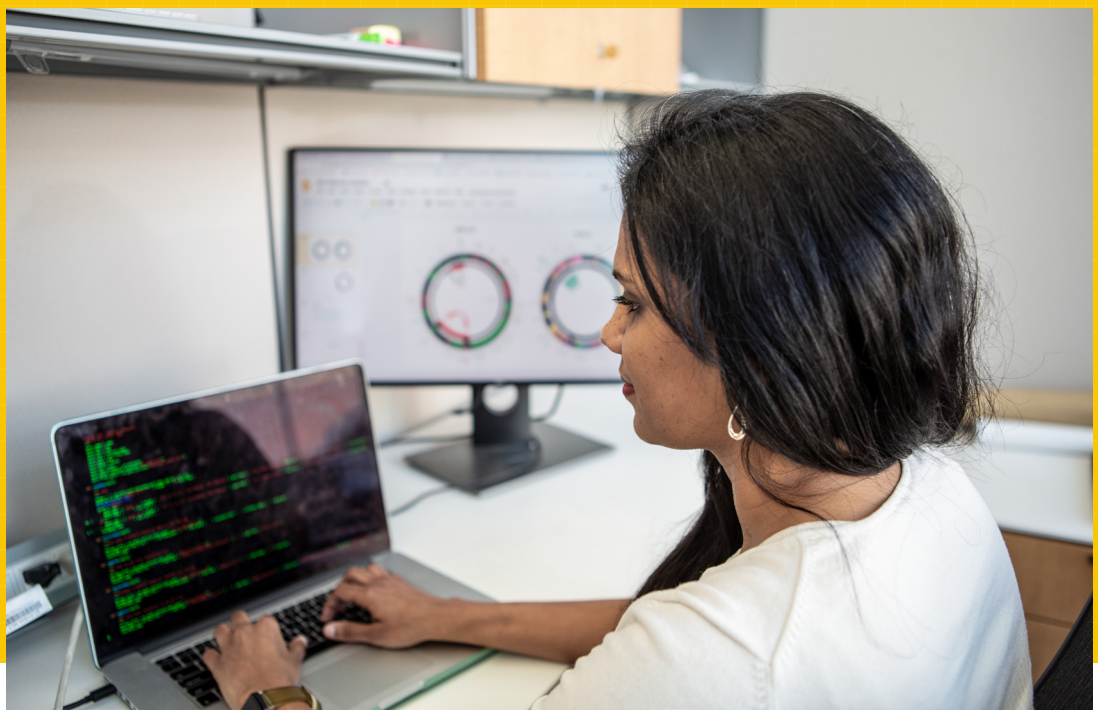
By pursuing the potential and promise of data science and AI and drawing upon the university's renowned strengths in robotics, human language technology, disease diagnosis, and social policy, researchers are collaborating to solve large and complex interdisciplinary problems.

Targeting core topics in computing and partnering with colleagues in engineering disciplines, as well as with investigators in Johns Hopkins' Krieger School of Arts and Sciences, School of Medicine, Bloomberg School of Public Health, and Applied Physics Laboratory, we in pioneering discovery in an environment where the values of humanity, ethics, and accessibility are integral, and innovation is informed by the diverse voices and perspectives that reflect the world we serve.

Our graduates are actively recruited by top companies, including Google, Apple, Microsoft, Amazon, Bloomberg, and Meta, and assume leadership roles in the public sector and academia.

PREPARING THE NEXT GENERATION OF ENGINEERING LEADERS

Through a variety of undergraduate and graduate offerings, we are preparing computer scientists who have the deep skill sets and desire to innovate that keep them at the forefront of the latest technologies and advances in this rapidly changing field. Bachelor's degrees and minor options for students from across the university foster an interdisciplinary community of inquiry within the department. Our students engage with faculty in conducting world-class research, and our flexible curriculum enables individualized, specialized training that prepares students for a broad range of career opportunities—in industry, the public sector, academia, and entrepreneurship.



Our researchers are sharing their expertise in information security by advising Congress, the Pentagon, and industry on issues ranging from election tampering to national defense to health care data privacy.

We are building scalable data sets and systems that enable scientists and engineers in all disciplines to advance discovery through the exploration, mining, and analysis of large data sets.

Our students go on to attend some of the nation's top graduate programs and pursue careers with industry leaders, as well as government agencies, and national security organizations.

A SAMPLING OF INDUSTRIES HIRING OUR GRADUATES:

- Artificial Intelligence and Machine Learning
- Bioinformatics
- Computational Finance
- Computer Security
- Data Science
- Energy
- Enterprise Software
- Healthcare Technology Development
- Internet and E-commerce
- Management Consulting
- Microsurgery
- Software Development

HOPKINS ENGINEERING
BY THE NUMBERS

10
departments

25+
centers and institutes

2,000
undergraduate students

2,500+
graduate students

7,000
online students

400+
faculty

$200M
external research funding

FULL-TIME PROGRAMS
16 bachelor's
21 master's
10 doctoral

57
part-time/online master's degrees and certificates

40,000+
alumni

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