Enhancing the human experience through robotics
OUR MISSION

• Create new and exciting opportunities for faculty collaboration
• Educate the next generation of robotics experts, entrepreneurs, and academic leaders
• Partner with industry and government to pursue truly transformative robotics research

The Institute for Robotics and Intelligent Machines (IRIM) connects robotics researchers, educators, and students from across campus to advance the many high-powered and diverse robotics activities at Georgia Tech.

CREATING THE NEXT GENERATION OF ROBOTICS RESEARCHERS

Georgia Tech offers the first interdisciplinary Ph.D. program in robotics to students enrolled in a participating school within either the College of Computing or the College of Engineering. A fully integrated, multidisciplinary experience, the program includes both coursework and research, with teaching needs served by faculty members in various units across campus.

Georgia Tech’s Ph.D. in robotics is recognized as one of the best in the U.S., and the program’s graduates go on to be leaders in both industry and academia.

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COMMUNITY OUTREACH

IRIM actively promotes robotics and science, technology, engineering, and mathematics (STEM) fields during community outreach activities.

National Robotics Week Open House
Georgia Tech hosts an annual open house with tours and demos during National Robotics Week, inspiring students of all ages to pursue careers in robotics and other STEM fields.

Robot Trading Cards
IRIM produces and distributes robot trading cards, including a special deck created in collaboration with iRobot and IEEE Spectrum. These popular cards teach both adults and children nationwide about the numerous applications for robots created at Georgia Tech and across the U.S.

RoboGrads and RoboJackets
Two student groups, RoboGrads (graduate) and RoboJackets (undergraduate), raise awareness of the importance of robotics technology to stimulate interest in the field. The groups work together to mentor a high school team for the FIRST Robotics Competition.

Fernbank Museum Robot Day
During Fernbank’s annual Robot Day, IRIM staff and graduate students set up a booth, where they answer questions, conduct demos, and distribute robot cards and information about programs at Georgia Tech.

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90+
Faculty Members
(60+ core robotics)

180
Graduate Students

40+
Robotics Labs

$60m
Annual Sponsored Research
RESEARCH FOCUS AREAS

The depth and breadth of Robotics at Georgia Tech breaks through disciplinary boundaries and allows for transformative research that transitions from theory to robustly deployed industrial systems featuring next-generation robots.

IRIM research is organized around three main threads:

Medical Robotics and Human Augmentation
Robots can facilitate complex medical tasks and augment human capabilities, empowering people to perform previously impossible or difficult tasks. IRIM researchers are developing the next generation of medical robots and human augmentation systems, encompassing surgical robotics, rehabilitation and assistive robotics, and prosthetics that all enhance the human experience.

Autonomy
Autonomy involves robots that have transitioned out of labs and into daily lives — whether in hospitals, on farms, in homes, or on factory floors. These robots must sense their environments, reason about appropriate actions, and take action in a safe and effective manner. IRIM has significant expertise in this area, with hopping, walking, slithering, driving, flying, and swimming robots comprising part of the robotic menagerie on campus.

Collaborative Robotics
As industrial robots are freed from their enclosures on the manufacturing floor and begin to work alongside human operators, a new, human-centric design process is needed. IRIM is a leader in human-robot interactions, developing robots that can learn from human demonstration, as well as human-robot teams that can assemble and manipulate objects together.

INDUSTRIAL AFFILIATES PROGRAM

Georgia Tech provides opportunities for companies interested in robotics research to engage with faculty and students through two different membership levels. Both members and partners have access to our annual events:

Fall Semester
Industry and Student Mixer: Industry guests speak to a new student every five minutes during a speed-networking session. The mixer also offers opportunities for informal interaction during a reception.

Spring Semester
Research Showcase: Industry participants interact with students and faculty during poster presentations and breakout sessions. Opportunities for informal networking abound.

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Photo: Josh Meister