Master of Science in
Robotic Software Engineering
Part-time | Fully online | Individual courses available

WHY GPS?

- Brandeis standards of excellence
- Convenient, flexible, fully online
- Seminar-style classes
- Average class size of 12
- Faculty from industry
- Professional connections
- One-on-one advising
- Finish in 18 months

WHY THIS PROGRAM?

Robotics is today’s industrial revolution. Prepare yourself.

Developed with industry experts, this STEM-designated program will equip you to:

✓ Design and code end-to-end software solutions that power autonomous robots.
✓ Develop advanced skills in ROS, Gazebo, Modern C++ and other robotic software engineering technologies.
✓ Gain hands-on experience with the technology stack to build an autonomous robot, including sensing, perception, planning, manipulation, execution and feedback control.

REQUIRED COURSES:

- Modern C++ and Robotics Frameworks
- Design and Architectural Patterns for Robotics
- Robot Sensing and Perception
- Machine Learning
- Robot Manipulation, Planning and Control
- Use Cases for Robotics Systems
- Capstone I
- Capstone II

SAMPLE ELECTIVES (SELECT 3):

- Mathematics and Algorithm Design for Robotics
- Data Intensive Software Systems for Robotics
- Python for Robotics and AI
- Robot-Human Collaboration

“Essentially every global industry will feel the impact of autonomous robots and the software that drives them. Software engineers who want to remain competitive in their fields will need to keep up with the specific set of skills and technologies that relate to robotics.”

— Krishna Gopalakrishnan, Program Development Chair at Brandeis GPS and Senior Software Engineer at Amazon Robotics

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