Rensselaer Department of Electrical, Computer, & Systems Engineering

ECSE.RPI.EDU

CORE SKILLSETS AND COURSES:

- **Computer Systems**
  Computer components and operations, Computer architecture and networking, Computer operating systems
- **Data and Information**
  Probability and statistics, Signal processing, Analog and digital communications
- **Learning and Control**
  Time and frequency domains, Feedback control, Digital control, Machine Learning
- **Image Science and Vision**
  Computer graphics, Machine vision, Image processing
- **Circuits and Electronics**
  Analog and digital circuits, Circuit analysis, simulation, and design, Microelectronics, Integrated circuits, VLSI
- **Energy and Power**
  Electromagnetic fields and waves, Power grids, Renewable sources, Electric machines
- **Design and Teamwork**
  Embedded control, Engineering design, Multidisciplinary capstone design

CONCENTRATION AREAS

- Intelligent Systems and Machine Learning
- Computer Networks
- Communications and Information
- Control, Robotics and Automation
- Graphics and Vision
- Comptuer Hardware Systems
- Microelectronics
- Photonics, Optics, and Optoelectronics
- Energy and Power Systems

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ABOUT ELECTRICAL, COMPUTER, AND SYSTEMS ENGINEERING

Founded in 1907, we're one of the first Electrical Engineering programs in US

STUDENTS
- 776 Undergraduates
- 49 Masters
- 98 Doctoral

RANKED 31 (EE) and 35th (CSE) in 2018 US News & World Report Graduate Rankings

DEGREES OFFERED
- Electrical Engineering (B.S., M.S., M.Eng., Ph.D.)
- Computer Systems Engineering (B.S., M.S., M.Eng., Ph.D.)
- Minors in Electrical Engineering, Computer Systems Engineering

DUAL MAJOR OPPORTUNITIES
Computer Science, Mechanical Engineering, Biomedical Engineering, Applied Physics

UNDERGRADUATE OPPORTUNITIES
Undergraduate Research Projects, Internships, Co-ops, Study Abroad

GRADUATE STUDENT SUPPORT
Almost all doctoral students receive financial assistance

FACULTY

- 28 Tenured/Tenure-Track
- 8 Lecturers and Professors of Practice
- 7 IEEE Fellows, 5 NSF CAREER Awards
- $12M annual research expenditures

STAFF

- 6 Techical Support Staff
- 5 Administrative Support Staff

RESEARCH AREAS

- AI and Machine Learning
- Communication and Networking
- Computer Hardware Systems
- Control, Robotics, Automation
- Electronics and Photonics
- Computer Vision Systems
- Power Electronics & Systems

AFFILIATED RESEARCH CENTERS

- Center for Materials, Device, and Systems (CMDIS) | cmdis.rpi.edu
- Center for Automation Technologies and Systems (CATS) | cats.rpi.edu
- Center for Future Energy Systems (CFES) | cfes.rpi.edu
- NSF Engineering Research Center for Lighting Enabled Systems and Applications (LESA) | lesa.rpi.edu
- NSF Engineering Research Center for Ultra-Wide-Area Resilient Electric Energy Transmission (CURENT)
- Cognitive and Immersive Systems Laboratory (CISL) | cisl.rpi.edu
- Center for Initiatives in Pre-College Education (CIPCE) | cipce.rpi.edu

JOHN WEN
DEPARTMENT HEAD
WENJ@RPI.EDU

CONTACT US
(518) 276-6316
ECSE.RPI.EDU