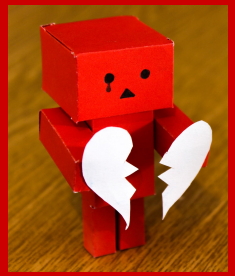
Carnegie Mellon
ROBOTICS CLUB

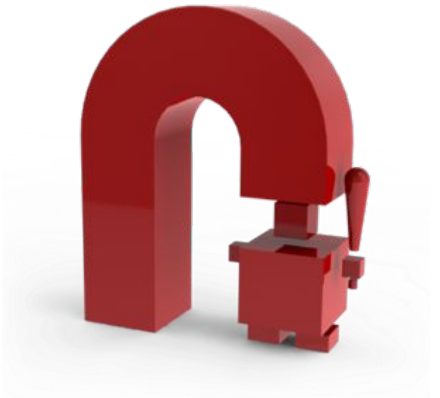
The Last Lecture



Like FWR?

Want to keep doing robotics and playing with robots? Here's some things you can do:

- Take courses in the Robotics Institute
- Do research in robotics
- Join RoboClub!



Courses:

- **16281 General Robotics [Spring Only :( ]**

  This course presents an overview of robotics in practice and research with topics including vision, machine learning, motion planning, mobile mechanisms, kinematics, inverse kinematics, and sensors. In course projects, students construct LEGO robots which are driven by a microcontroller, with each project reinforcing the basic principles developed in lectures

- **16223 IDeATe Portal: Creative Kinetic Systems [Fall Only :( ]**

  This introductory physical computing course addresses the practical design and fabrication of robots, interactive gadgets, and kinetic sculptures.

- **15122 Principles of Imperative Computation**

  For students with a basic understanding of programming (variables, expressions, loops, arrays, functions). Students will learn the process and concepts needed to go from high-level descriptions of algorithms to correct imperative implementations, with specific application to basic data structures and algorithms.

- **18021 Introduction to Printed Circuit Boards Fabrication [Mini]**

- **18011 Introduction to Soldering [Mini]**

Courses Cont.:

- **16467 Human Robot Interaction [Spring Only :( ]**

  The basic objective is to create natural and effective interactions between people and robots. HRI is highly interdisciplinary, bringing together methodologies and techniques from robotics, artificial intelligence, human-computer interaction, psychology, education, and other fields. *Adriana's Note*: You do a fun term project where you and your team run a HRI study. No prerequisites!

- **05318 Human AI Interaction**

  This course is an introduction to harnessing the power of AI so that it is beneficial and useful to people. We will cover a number of general topics: agency and initiative, AI and ethics, bias and transparency, confidence and errors, human augmentation and amplification, trust and explainability, mixed-initiative systems, and programming by example.

- **24251 - Electronics for Sensing and Actuation**

  This course covers the basics of passive circuit design, applications of operational amplifiers, and the use of transistors to amplify low power signals coming from microcontrollers. Lecture materials are coupled with hands-on in-class exercises and homework assignments using the Arduino to interface with sensors and actuators.

Research

- If you want to do research, reach out to the professor and ask!
  - If you can read a few of the professor's papers, or look at any video demonstrations online, that helps!
  - If you know someone who is in the lab, talk to them about the workload, and what sort of things you might work on.
  - That's it!
- Labs on campus include:
  - Biorobotics Lab, Kantor Lab, Air Lab, HARP Lab
  - There are a lot of other cool labs on campus! Just ask around!

RoboClub!

- **Personal Projects**

Discord: https://discord.gg/rnPgqXat7m

- **RoboBuggy**
  - It's a driverless buggy! Our goal is to create an robotic buggy research platform that can autonomously navigate through the Sweepstakes course.
- **Combat Robotics**
  - Do you like BattleBots? Do you like putting saws on things? Join Combat Robotics!
- **RobOrchestra**
  - RobOrchestra aims to explore the creative possibilities for robotic instruments. We design, build and program robots that read music from MIDI data in order to put on musical performances.
- **Prosthetics Project**
  - Build and design prosthetic hands/arms, primarily through 3D printing, servos, and other hardware
- **Quadrapeds**
  - Robot dog? Yes!
  - Actually, it might be a robot cat…

One Last Form

Please fill out our end of class survey!

It is anonymous!

But please take it ＼(º⌒∇⌒)／

ADD CLASS SURVEY

That's All Folks!

Congratulations! You have just listened to your last lecture for Fun With Robots! Hooray!