COMP.4510 and COMP.5490
Lecture 1: Course Introduction

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Course Staff

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Textbook

Book will be heavily used for the entire course; highly recommend that everyone have their own copy

~$20 to rent at Amazon
~$75 to buy new at Amazon
Also available at the bookstore
Software

ROS: Robot Operating System

Used widely in academia and many robot companies

Can be installed on your own Ubuntu machine or you can use VLabs

Want to start reading now? Tutorials are available at http://wiki.ros.org/ROS/Tutorials

You’ll have the choice of completing problem sets in either C++ or Python
A (Very) Brief History of Robotics
Grey Walter’s Tortoises, 1950

BRISTOL'S ROBOT TORTOISES HAVE MINDS OF THEIR OWN
Shakey, SRI 1960s
Stanford Cart, 1979
Three Types of Robot Architectures

Hierarchical

Reactive

Hybrid

From Murphy 2000
The Minerva Experience

Summer 1998
Minerva’s Architecture Diagram

On-line August 24 to September 5

In the Smithsonian Institution’s National Museum of American History and ON THIS WEB SITE!
Main Topic of the Course: SLAM

Simultaneous
Localization
And
Mapping
Robot localization example
Multi-Robot Mapping and Exploration

Carnegie Mellon
October 1999
Mapping Mines
Closing loops

From https://blog.cometlabs.io/teaching-robots-presence-what-you-need-to-know-about-slam-9bf0ca037553
DARPA Robotics Challenge

June 2015
Google Gar/Waymo
Navlab, CMU, 1997
Starting the class

• Make sure your email address is on the sheets that went around the room. This will be used for the Google group that will be used as the class mailing list.

• Office hours and course web page will be emailed via that mailing list before our next meeting