COMS 6731, Humanoid Robots, Course Information
T-TH, 4:10 – 6:00 PM
233 Mudd

Professor: Peter Allen, allen@cs.columbia.edu, 619 CEPSR. Office Hours: W, 11:30 – 12:30

TAs:  
David Watkins, djw2146@columbia.edu

Prerequisites: A course in at least ONE of the following: AI, Robotics, Computer Graphics or Computer Vision.

Course Format: We will read a set of papers on each of the syllabus topics below. Students will sign up to present a paper to the class from the syllabus.

Grading: Students will be graded on 1) class participation (1/3), 2) a paper presentation on one of the reading list papers (1/3), and 3) an individual or group project (1/3).

Student Talks page: To be added: http://www.cs.columbia.edu/~allen/S18/talks.html

Projects Page: To be added: http://www.cs.columbia.edu/~allen/S18/projects.html

Syllabus Topics:

1. Introduction to Humanoids  
2. Hardware and Mechanical design  
3. Using the simulation environment for PR2, Baxter, Fetch Robots  
4. Locomotion  
5. Motion and Path planning  
6. Learning/cognition  
7. Sensing/Perception  
8. Grasping and Manipulation  
9. Social Interaction  
10. Assistive Humanoids  
11. Human-Robot Interfaces (HRI)  
12. Brain-Computer Interfaces  
13. Project Presentations