

Autonomous Systems Lab (ASL) Undergraduate Project Openings for Fall 2015

The Autonomous Systems Lab seeks a small group of students across different departments to work with our PhD students on robotics applications and research. Details on the project descriptions, application process, and additional notes are given below.



Segway RMP50/50XL outdoor robot fleet, equipped with Septentrio GPS, 180 deg FOV SICK and 270 deg FOV Hokuyo Lidar, Mimo touchscreen interfaces, Firefly Cameras, onboard IMU, mobile WiFi, custom electronics and mounting hardware.

Notes:

-Undergraduate students are expected to sign up for 3-4 credits of (...ECE/MAE/CS Independent study courses) during the semester, and thus commit at least 9-12 hours per week in the ASL. A commitment of two semesters or a summer and a semester is desired. We are also willing to consider employment, especially for those who have work study credit.

How to apply:

1. Go to cornell-asl.org and download an application form from the front page
2. Scan and e-mail your **completed application and your resume/CV** with the subject line : "[Fall 2015 ASL application] <Your Name>, Project <Project Number>," where <Your Name> is your name and <Project Number> is the number of the project listed below. Please send your application and resume/CV to one of the following people:
Professor Mark Campbell, mc288@cornell.edu
Jennifer Padgett, jpp263@cornell.edu

Segway Sensor Network and Emergency stop PCB design: 1 MAE/ECE Masters Student: Prior experience with PCB design is required. Knowledge of power electronics and switching power supplies is highly desired.

Description: This project seeks to design an all-in-one axilliary PCB cape for a Beaglebone Black. This cape should include circuits for current and voltage limiters, as well as a backup battery to facilitate safe-shutdown of the Beaglebone Black upon power loss. In addition, this design should allow for a hard-wired emergency stop for a CAN interface.

Who should apply: ECE students with experience in circuit design especially power electronics and PCB design should apply. Robustness and reliability of the design is paramount, as well as ease of access.