Autonomous Systems Lab (ASL) Undergraduate and MEng Project Openings for Fall 2017

The Autonomous Systems Lab seeks a small group of students (undergrad and/or MEng) to work with our PhD students on robotics applications and research. The primary project is advanced autonomous vehicles, including autonomous driving using our car Skynet and a smaller Jackal robot (pictures below).

**Project Specifics:** Specific jobs include: 1) developing new deep learning detectors of the environment for autonomous driving (signs, lights, people, cars, intersection cues, etc.) 2) developing detectors and segmentation for new sensors on Skynet, including 360deg Ladybug camera and advanced radar. 3) segmentation and processing of lidar data to detect people, cars, cyclists, lane lines, ground and other environmental features while driving; 4) develop online mapping algorithm using prior maps (e.g. from google or surveyed data) and sensor detections, 5) develop sensor and electronic mounts for stereo vision and a GPU on the Jackal robot; 6) develop a stereo camera logger package from a camera, GPU and processor, and collect data logs of moving cars (intersections, parking garages) and moving people (around Cornell). 7) work with ECE and CS professors on a proof of concept secure collision avoidance demonstration using the Jackal and driving a mock intersection.

Background/interest in programming (C/C++), computer architecture, and robotics is preferred. Students are expected to sign up for 3-4 credits of (...CS/ECE/MAE Independent study courses or MEng courses) during the semester, and thus commit at least 9-12 hours per week in the ASL.

**How to apply:**
Email a filled our application (found [here](#)) or a resume with your experiences with the subject line:
“[Fall 2017 ASL application] <Your Name>”
along with a list of desired projects (from above) and send to Prof. Mark Campbell, mc288@cornell.edu