

A_Ivanov_project_description_2016

Autonomous Systems Lab (ASL) MENG/Undergraduate Project Fall 2016

The Autonomous Systems Lab is seeking a student with strong C++ and ROS background for an intensive, directly mentored project. The goal of this project is the development of an open source simulation infrastructure and a research publication with potential authorship credit given to the student involved.



Description: This is a two semester long project which seeks to build a visualization and simulation engine for exploratory controllers using standard robotic models. This engine will be the backbone of simulations and evaluations of current research in robotic exploration and control. This engine will also be integrated and should work closely with the open source Robot Operating System (ROS). In addition, a level of integration with MATLAB will enable rapid prototyping and visualization. The end result will be published publicly online for use by other research groups around the world.

Who should apply: Junior, Senior, and MENG Computer Science students are encouraged to apply. ECE and MAE students with strong programming backgrounds will also be considered. This project is for senior design or MENG level work. A C++ background is absolutely necessary and students with experience in MATLAB and ROS will be heavily favored. Applicants should be experienced in architecting multi-level programs and have developed code practices and documentation habits. This project will also be demanding, so those students with wider availability and willingness to continue work independently past the standard semester will be favored.

Notes:

-Undergraduate students are expected to sign up for 3-4 credits of (...ECE/MAE/CS Independent study courses) during the semester. This project will also fulfill the project requirement for all MENG students. A commitment of at least two semesters 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 :

"[Individually Mentored ASL application] <Your Name>"

where <Your Name> is the applicant's name. Please send your application and resume/CV to **both** of the following people:

Professor Mark Campbell, mc288@cornell.edu

Alex Ivanov, aii4@cornell.edu