

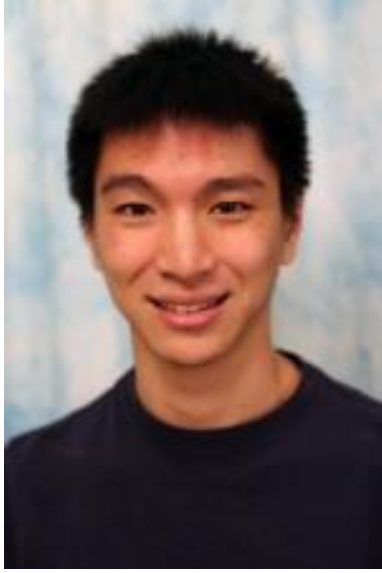
The Field Robotics Center

Seminar Series

Tuesday, 5th December

GHC 4405 10:30 – 11:30pm

Food will be served



Eugene Fang

Ph.D. student
Robotics Institute

Belief Space Planning for Reducing Terrain Relative Localization Uncertainty in Noisy Elevation Maps

Abstract: Accurate global localization is essential for planetary rovers to reach science goals and mitigate mission risk. Planetary robots cannot currently use GPS or infrastructure for navigating, and hence rely on terrain for determining global position. Terrain relative navigation (TRN) compares planetary rover-perspective images and 3D models to existing satellite orbital imagery and digital elevation models (DEMs) for absolute positioning. However, TRN is limited by the quality of orbital data and the presence and uniqueness of terrain features. This talk presents a method that reduces localization uncertainty from terrain relative navigation while planning global paths and is robust to noise and errors in DEMs.

Speaker Bio: Eugene Fang is a Ph.D. student in the Robotics Institute at Carnegie Mellon University, advised by Prof. William "Red" Whittaker. He previously received his M.S. in Robotics at CMU and B.S. in Electrical Engineering and Computer Sciences at UC Berkeley. His interests are in route planning for planetary exploration rovers.



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