The Field Robotics Center

Seminar Series

Thurs, Aug 21 GHC 2109 11:30-12:30pm

Food and Drinks will be served

Wennie Tabib
Graduate Student
Robotics Institute

Crater Detection in Planetary Images

Abstract: This research presents a method of identifying craters in planetary images. Crater detection forms the crux of optical registration algorithms in which collections of craters are matched to known locations on a planet. Absolute pose of a spacecraft can be recovered from pixel coordinates in the image and matching locations on the planet's surface. While on-board GPS and INS systems are sufficient for pose estimation close to Earth, these methods fail in GPS-denied regions such as the Moon, Mars, asteroids, and other planetary bodies. As a result, georegistration using craters is ideal for estimating pose of a spacecraft when radio communications drop out.

Speaker Bio: Wennie Tabib is a Masters student in the Robotics Institute advised by Red Whittaker. She received her B.S. degree in Computer Science from Carnegie Mellon University in 2012. She works part-time at Astrobotic Technology, Inc. as a software engineer on the autonomous landing team. She will be pursuing a Ph.D. in Computer Science this fall. Her current research interest is optical navigation.




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