

The Field Robotics Center

Seminar Series

Wednesday, Aug 6 GHC 2109 11AM-Noon

Food and Drinks will be served



Vishnu Desaraju
PhD Student
Robotics Institute

Informed Trajectory Generation for Autonomous Rooftop Landing

Abstract: Autonomous landing is an essential function for micro air vehicles (MAVs) for many scenarios. Due to their limited on-board sensing and processing capabilities, we pursue an active perception strategy in which the MAV generates trajectories that enable it to identify and assess feasible landing sites during approach. This work specifically addresses the problem of landing on a rooftop to monitor a nearby interest point. This talk presents an online trajectory generation approach that balances the need to concurrently explore available rooftop vantages of an interest point while ensuring confidence in the landing site suitability by considering the impact of landing site uncertainty as assessed by an on-board perception system. A set of simulation and preliminary experimental results demonstrate the functionality and utility of this trajectory generation approach.

Speaker Bio: Vishnu Desaraju is a Ph.D. student in the Robotics Institute advised by Nathan Michael. He received his B.S.E. degree in Electrical Engineering from the University of Michigan in 2008 and the S.M. degree in Aeronautics and Astronautics from MIT in 2010. Prior to joining CMU, he worked at Aurora Flight Sciences as a Guidance, Navigation, and Control engineer. His current research interests include real-time motion planning and adaptive control.



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