FACULTY SEMINAR SERIES

COMPUTER VISION FOR SAFER BIKING AND WALKING



Bernardo Pires is a Project Scientist at the Robotics Institute, Carnegie Mellon University. His recent work focuses on practical applications of Computer Vision, including wearable and hand-held devices, intelligent bike and pedestrian counting, and gps-denied vehicle navigation. From 2011 to 2014, he was a Post-Doctoral Fellow working on methods for gaze tracking and its applications to people and object recognition. His postdoctoral research technology was incorporated into a CMU spin-off. Bernardo holds a Ph.D. degree from Carnegie Mellon University and a Licenciatura (B.S.) from Instituto Superior Técnico (IST), at the Technical University of Lisbon, Portugal. At IST, his research won the Prof. Luís Vidigal Award for the Best Graduation Thesis in the fields of Electrical Engineering and Computer Science.

Wednesday, November 2, 2016 Noon-1 p.m. Hamburg Hall 1002 Lunch will be provided.

This talk focuses on the use of computer vision to collect data for government officials and advocates that promote bicycling and walking. Although the health and environmental benefits of a non-automobile commute are well known, it is still difficult to understand how to get more people to take up active transportation. Infrastructure can have a dramatic effect on cycling and walking adoption, but represents a significant outlay of government resources. Thus, concrete usage and safety statistics are paramount for assessing and optimizing such spending. The talk will discuss three projects that are in various stages of development and use computer vision

to collect actionable data: 1) A cyclist and pedestrian counting system for bike lanes; 2) A pedestrian detection and wait time measurement system for crosswalks; and 3) A speedgun app for mobile devices.





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