The Math Colloquium
Department of Mathematics
San José State University

Jake Askeland

Volkswagen Electronics Research Laboratory

Constructing an Automatic Mapping Algorithm

August 29, 2012, MH320

Abstract: Earth has a surface area of approximately 5.1×10^{14} square meters. Identifying global positions of landmarks to within centimeters, then, implies a relative error of no more than 9.8×10^{-16}, very close to machine precision. This talk concerns itself with achieving this goal automatically, from a single drive-by at high speed, using only computer vision, high precision GPS, and very basic numerical analysis.

Background: Some familiarity with the idea of error in measurement and computation will be helpful, but not necessary.

About the speaker: Jake Askeland received his bachelors in Applied Mathematics at SJSU in Spring, 2011 and is a Research Engineer at Volkswagen's Electronics Research Lab (ERL) in Belmont, CA. His research includes laser- and camera-based methods in road network mapping. The ERL is known for its involvement in the DARPA Grand and Urban Autonomous Driving challenges, where, together with Stanford University, they took first and second place.

Snacks in MH331B at 2:30 pm
Talk starts at 3 pm

For more information, see our full schedule at:

http://www.math.sjsu.edu/~hsu/colloq/