HUMANITY CENTERED ROBOTICS INITIATIVE

BROWN

# Brandon Basso
# Uber

## "What's Hard About Self Driving Cars?"

***Thursday, October 25, 2018***
***12:00-12:50***
***CIT 477 Lubrano***

*Abstract:* Self-driving cars have the potential to bring efficient, safe, and low-cost mobility to people around the world. At Uber ATG we've been working diligently to make this future a reality. We have collected millions of miles of autonomous driving data and have completed tens of thousands of passenger trips in multiple cities in the US. So, what's the state of self-driving cars today?

This talk will explore several practical challenges in bridging the gap between the current state of the technology and viable self-driving cars of the future. We will discuss several example challenges in perception, motion prediction, planning, and control that we are solving at Uber ATG, challenges we believe must be addressed before self-driving cars become a reality.

**Brandon Basso** is a Director of Autonomy at Uber Advanced Technologies Group (ATG). He leads autonomous vehicle capabilities development across perception, motion planning, and control software engineering groups. He previously led software engineering on ATG's autonomous trucking project. In addition to developing new vehicle capabilities, Brandon focuses on software safety and testing across the entire onboard and offboard stack. Brandon's previous experience is in aviation and aerospace. He was the VP of Engineering at 3D Robotics and led the development of several successful consumer and commercial drone projects. He additionally worked at Honeybee robotics where he was a member of the Mars Exploration Rover engineering team, designing and operating tooling still in use today on several Mars missions, including Spirit, Opportunity, Curiosity, and Phoenix. Brandon received his bachelor's degree from Columbia University and PhD from University of California, Berkeley, both in mechanical engineering. While at Berkeley, Brandon studied control theory and was a member of the Centre for Collaborative Control of Unmanned Vehicles (C3UV) under Karl Hedrick. His research focused on autonomous decision making among teams of robotic aircraft.

Host: Stefanie Tellex/HCRI