

Thomas Howard is an assistant professor in the Department of Electrical and Computer Engineering and the Department of Computer Science. He is also a member of the Institute for Data Science and holds a secondary appointment in the Department of Biomedical Engineering. Previously he held appointments as a research scientist and a postdoctoral associate at MIT's Computer Science and Artificial Intelligence Laboratory in the Robust Robotics Group, a research technologist at JPL in the Mobility and Robotic Systems section, and a lecturer in mechanical engineering at Caltech. Dr. Howard directs Robotics and Artificial Intelligence Laboratory at the University of Rochester.

Dr. Howard earned a PhD in robotics from the Robotics Institute at Carnegie Mellon University in 2009 in addition to BS degrees in electrical and computer engineering and mechanical engineering from the University of Rochester in 2004. His research interests span artificial intelligence, robotics, and human-robot interaction with particular research focus on improving the optimality, efficiency, and fidelity of models for decision making in complex and unstructured environments with applications to robot motion planning and natural language understanding. He has applied his research on numerous robots including planetary rovers, autonomous automobiles, mobile manipulators, robotic torsos, and unmanned aerial vehicles. Dr. Howard was a member of the flight software team for the Mars Science Laboratory, the motion planning lead for the JPLCaltechDARPA Autonomous Robotic Manipulation team, and a member of Tartan Racing, winner of the DARPA Urban Challenge.

Areas of Interest

Artificial intelligence, robotics, machine learning, natural language understanding, robot motion planning, model-predictive control, optimization, human-robot interaction, state estimation, signal processing, machine vision, multi-robot coordination, robotic manufacturing, medical robotics, and autonomous exploration.