

Illah Nourbakhsh - Extended Biographical Sketch

My interest in mechatronic systems grew out of a childhood filled with the never-ending cycle of designing peculiar remote-control airplanes, building them, flying them and eventually crashing them. In college, I led the design and fabrication of Stanford University's first solar-powered race car, which we raced in GM's SunRayce from Orlando to Lansing during two grueling weeks. Then I took a lengthy diversion into Artificial Intelligence, working on computational molecular biology as part of the GENOME project and then as a member of NEWMAAP, the precursor to Deep Space One, at NASA's Jet Propulsion Labs. In graduate school, my interests in the mechanical and in artificial intelligence finally fused in the form of robotics. My advisor, Professor Michael Genesereth, gave me the challenge of creating a robot that would robustly navigate Stanford's entire outer quadrangle. Using a Nomadic Technologies prototype (serial number one!), Benjamin Dugan and I accomplished the task in one summer. My advisor and I went on to design and teach Stanford University's first Mobile Robot Programming course, and our course graduates and I traveled to AAAI's National Robot Contest to win two consecutive years.

My current interests are far too broad, but I am focused mainly on outreach and educational programs in robotics, public applications of intelligent, autonomous robots and research in the fundamental challenges of robotics. Currently, I am a juggler. At The Robotics Institute, I am Assistant Professor of Robotics and have founded the Toy Robots Initiative and the Mobot Programming Lab. I conduct long-term, theoretical research on robot vision and robot planning & reasoning. I manage short-term, rapid development in the areas of robot navigation and sensor and control systems for electric wheelchairs. My research program is based on my belief that there are two principal challenges that must be surmounted for robotics to succeed: *robot vision* and *robot abstraction*.

At Carnegie Mellon, I teach courses on mobile robot programming and the history of mobile robotics. In the world outside of academia, I am Chief Scientist and co-founder at Blue Pumpkin Software, Inc. and Mobot, Inc. I am also Chief Scientist at Hyperbot, Inc. and most recently I have become involved with advanced development for the Cye robot at Probotics, Inc.

I live primarily in Pittsburgh, Pennsylvania but spend significant amounts of time in San Francisco and Boston.