

Kristopher L. Kriechbaum

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Education

- California Institute of Technology**, Pasadena, CA June 2006
Ph.D. in Mechanical Engineering
Thesis: Tools and Algorithms for Mobile Robot Navigation with Uncertain Localization
- California Institute of Technology**, Pasadena, CA 2001
Master of Science, Mechanical Engineering
- Carnegie Mellon University**, Pittsburgh, PA 1999
Bachelor of Science, Mechanical Engineering
Minor: Engineering Design

Experience

- Graduate Research*** 1999 - Present
California Institute of Technology
- Development of sensor-based motion planning algorithms for mobile robots in the presence of sensing and motion uncertainty. Advised by Professor Joel Burdick.
 - Research combines Kalman filtering methods from localization and mapping with sensor-based planning techniques.
 - Allows for more reliable navigation in areas where traditional assumptions break down.
- Terrain Team Coordinator*** 2003 - 2005
Team Caltech, California Institute of Technology
- DARPA Grand Challenge for Autonomous Ground Vehicles.
 - Oversaw group of approximately 10 of 30 undergraduate student team members.
 - Assisted students in development of system architecture, track component-level progress, and lead weekly meetings.
 - Member of the IPT (Integrated Product Team). Met weekly to coordinate project critical issues.
- Research Mentor*** 2001 - Present
California Institute of Technology
- Advised undergraduate and high school students on a variety of summer projects relating to mobile robots and autonomous vehicles.

Software QA Consultant 2003-2004
 Evolution Robotics, Pasadena, CA

- Performed thorough testing of the Evolution Robotics Software Platform on a rapid development cycle.
- Validated existing documentation and developed additional documentation and tutorials.

Teaching Assistant 2001 - 2003
 California Institute of Technology, Pasadena, CA

- Mechanical Design Laboratory (ME 72) - Fall 2003: Graded design notebooks and assignments, assisted students with design of robotic devices.
- Introductory Robotics (ME 115) - Winter/Spring 2003: Graded assignments, prepared solution sets, and held office hours.
- Mobile Robotics Laboratory (ME 131) - Spring 2001: Graded assignments, set up labs, assisted with vehicle upkeep, and helped individual students with labs, with primary emphasis on developing their programming skills.

Research Assistant 1997 - 1999
 Robotics Institute, Carnegie Mellon University, Pittsburgh, PA

- Developed technique for manufacturing of microbarbs, porous scaffolds, and bioresorbable screws for a tissue engineering application.
- Duties included use of silicon micromachining tools in a cleanroom environment, various types of molding, and chemistry equipment.

Technical Skills

Matlab, Mathematica, Linux system administration, MS Windows, MS Office, Adobe Photoshop, C++, Perl, Shell scripts, L^AT_EX, HTML, CVS, Subversion, Bugzilla, Mediawiki

Honors & Awards

Betty & Gordon Moore Fellowship	1999-2003
Merit Scholarship (Carnegie Mellon University)	1995-1999
GTE Academic All-American, Track and Field	1999
GTE Academic All-American, Cross Country	1998
Track and Field All-American, Steeplechase	1997
Phi Kappa Phi Honor Society	
Tau Beta Pi Engineering Honor Society	

Activities

Co-captain, Caltech club soccer team	2003-2005
Caltech Robotics Outreach Group	2003-Present
President, Society of Professional Students	2002-2004
Avid runner	
Computer tinkerer	
Amateur photographer	