

Kaijen Hsiao

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EDUCATION:

Massachusetts Institute of Technology, Cambridge, MA—NSF graduate fellow, MS in Computer Science in 2005, continuing on as a Ph.D. candidate (expected graduation in 2009). GPA 5.0/5.0

Princeton University, Princeton, NJ—graduated summa cum laude with a BSE in Mechanical Engineering in 2002, with certificates in Robotics and Intelligent Systems and Applications of Computing, final GPA 3.8/4.0

EXPERIENCE:

MIT Computer Science and Artificial Intelligence Lab, Cambridge, MA, Fall 2002-present. MS thesis research on Imitation Learning of Whole-Body Grasps; current research on robust robotic manipulation under uncertainty, under Tomás Lozano-Pérez and Leslie Kaelbling.

Willow Garage/Stanford University, Menlo Park/Palo Alto, CA, Summer 2008. Summer intern at Willow Garage, worked in Andrew Ng's group at Stanford on improving grasping with IR fingertip proximity sensors on a Barrett Arm (as part of the STAIR project).

Iguana Robotics, Urbana-Champaign, IL, Summer 2002. Summer Intern – worked on networking, programming, and circuit design for a bipedal walking robot using central pattern generators for walking, and created a prototype Color Taster, a device that uses neural networks for color classification.

Princeton University, Princeton, NJ, Fall 2001. Senior Thesis on a two-legged, dynamic hopping kangaroo robot.

MIT Media Lab, Cambridge, MA, Responsive Environments Group, Summer 2001. Programmed a DSP in assembly to do signal processing for the 'Responsive Window' (a window tap-tracker that uses piezoceramic microphones to calculate the location of taps), under Dr. Joseph Paradiso.

Princeton University, Princeton, NJ, Dynamical Control Systems Laboratory, Spring 2001. Independent work on the design and construction of an inter-vehicle position and orientation determination system for multiple autonomous underwater vehicles, under Dr. Ralf Bachmayer and Prof. Naomi Leonard.

iRobot Corporation, Cambridge, MA, Summer 2000. Summer Intern - assisted in prototyping, quoting parts, research, and other tasks for the iRobot (a mobile, web-teleoperated home robot) mechanical design team.

MIT Media Lab, Cambridge, MA, Responsive Environments Group, Summer 1999. Undergraduate Research Assistant under Dr. Joseph Paradiso - developed software for the 'Expressive Footwear' project (shoes that translate movement into music) and designed the group's webpage.

COMPUTER SKILLS:

Proficient in C/C++ and Python, some experience with assembly, Perl, Java, Html, Scheme
Environments/Tools: Linux, Windows, C++ Visual Studio, SolidWorks, Pro/Engineer, Blender, Matlab

SELECTED PUBLICATIONS:

"Reactive Grasping Using Optical Proximity Sensors," Kaijen Hsiao, Paul Nangeroni, Manfred Huber, Ashutosh Saxena, and Andrew Ng., ICRA 2009.

"Robust Belief-Based Execution of Manipulation Programs," Kaijen Hsiao, Tomás Lozano-Pérez, and Leslie Pack Kaelbling, WAFR 2008.

"Grasping POMDPs," Kaijen Hsiao and Leslie Pack Kaelbling and Tomás Lozano-Pérez. ICRA, 2007.

"Imitation Learning of Whole-Body Grasps," Kaijen Hsiao and Tomás Lozano-Pérez. IROS, 2006.

"Evolving Simulated Mutually Perceptive Robots for Combat," Michael O'Kelly and Kaijen Hsiao. ALIFE 2004.