

Michael F. Robbins

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<http://www.compumike.com/>

EDUCATION

Massachusetts Institute of Technology, Class of 2008 (August 2004 – present)

- Intended major: Course VI-2, Electrical Engineering and Computer Science. Expected graduation: May 2008. GPA: 4.9/5.0.
- Honorable Mention for RSS Client in 6.170, Software Engineering Lab (Spring 2004). One of three students to receive A+ grade.
- Fifth-place finish in 6.186, MASLab, vision-based robotics competition in a team of four (Jan 2005), as a freshman.
- Leader of semi-finalist “Jungle Juice” team; drinking water cooling system for Institute for Soldier Nanotechnologies (Nov 2004).

Friends' Central School, Wynnewood, PA (September 1990 – June 2004)

- Cum Laude, Phi Beta Kappa, Science Department Award, History Research Project 2nd place award.
- Senior editor of newspaper, Model United Nations team, Science Olympiad team co-captain, class co-president (9th grade).
- Suggested, organized, and taught computer programming course while in 9th grade.

University of Pennsylvania, Young Scholars Program (September 2003 – May 2004)

- Two college courses (Math 114, Math 240) during 12th grade. Grade of A+ in both classes; 4.00 / 4.00 GPA.

RESEARCH INTERESTS AND WORK EXPERIENCE

Aerospace Control Laboratory, MIT, Researcher (September 2005 – present)

- Designed and implemented a preemptive multitasking kernel for the Atmel AVR 8-bit microcontrollers, with links to an IMU and control inputs. Created a test platform, modifying an RC car to run via Bluetooth. Currently migrating to a quadrotor with waypoint planning and other higher-level control strategies.

Laboratory for Information and Decision Systems, MIT, Researcher (May 2005 – September 2005)

- Improved a 6-DOF single-camera position and orientation sensor based on Moire fringes, leading to a real-time controller capable of hovering a small helicopter indoors. Developed an embedded microcontroller system for motor control of a CNC mill.

MIT Rocket Team, member (September 2004 – present), Lab Manager (April 2005 – present)

- Participated in the January 2005 Design Competition; designed, built, and tested a 20lb-thrust rocket fueled on ethanol and liquid oxygen, in a team of four engineers. Gained experience in cryogenics and basic thermal systems design.
- Currently developing an ablative rocket engine chamber based on composite materials.

Zeta Beta Tau Fraternity, MIT Xi Chapter (September 2004 – present)

- House Manager and Assistant House Manager (May 2005 – present), responsible for maintenance of \$1.9 million property, including general contracting, basic repair work, capital improvements, and day-to-day management of workforce and budget.
- Co-Communications Chair (May 2005 – February 2006), handled installation of fiber optic internet connection, managed a Class B IP space, and built and maintained a 2-terabyte house file server.

Scanning Tunneling Microscopy Design and Construction, High School Senior Project (May 2004)

- Researched, designed, and built inexpensive STM with a peer. Electron tunneling, but not imaging, was achieved.

Philadelphia Linux User Group, presenter (July 2002), mailing list member (February 2001 – June 2004)

- Presentation “Robotics with Linux” given 7/3/2002 at Univ. of Sciences in Phila. See <http://www.compumike.com/robot/plugin/>.

Pennsylvania Governor's School for the Sciences, held at Carnegie Mellon University (Summer 2003)

- Synthesized and tested YBaCuO and BiSiCaCuO oxide superconductors while studying fundamentals of materials science, culminating in a paper titled, “Super-Duper Conductors: Processing and Analyzing Substitutions in High Tc Superconductors”

Robotics, Microcontrollers, and Computer Vision Research, Independent Group Project (Summer 2002)

- Taught myself electronics, PCB fabrication, MCU programming, vision algorithms. See <http://www.compumike.com/robot/>.

LANsultants, Inc., Philadelphia, PA (Summer 2001)

- Implemented, documented, and trained coworkers to use Linux-based server for critical DNS and e-mail solution for their clients.

ACADEMIC AWARDS AND OTHER DISTINCTIONS

National Merit Scholarship Winner (May 2004)

Pennsylvania Council of Teachers of Mathematics, Shippensburg, PA (recognized 2003 and 2004)

Science Olympiad (October 2000 – April 2004)

- Co-captain of high school team in senior year, with responsibilities including management of 44 students, financial control, and technical oversight. Led the only private school in Pennsylvania to qualify for statewide competition.
- Personal 2003 statewide awards: Compute This (1st place), Qualitative Analysis (2nd), Physics Lab (4th).

American Mathematics Competitions (AIME invited participant 2002, 2003, 2004)

U.S. State Department, Digital Diplomacy Award (November 2000)

- First and only educational award by State Dept. for public, recognizing site that “best teaches others about the importance of international affairs and diplomacy.” Award ceremony in Treaty Room of State Dept. in Washington, D.C., January 2001.

Demo '99, Indian Wells, CA, Presenter representing American Computer Experience (February 1999)