

# SPENCER AHRENS

1921 Francisco St. Apt 2C ▪ Berkeley, CA 94709 ▪ 541.740.2776  
sahrens@mit.edu ▪ ahrenssolutions.com

## EDUCATION

**Massachusetts Institute of Technology** Graduate student in Mechanical Engineering – *enrolling Feb 2007*

**University of California, Berkeley** B.S. Mechanical Engineering – *May 2006*  
3.56 AGPA, Computer Science minor, honors physics.

Technical Electives – 3.66 GPA

Aerodynamics (me163), Lagrangian Dynamics (me175), Microfluidics (me167), Microprocessor Controlled Mechanical Systems (me135), Programming Language Compilers and Security (cs164), Software Engineering (cs169), Computer Graphics (cs184).

## WORK EXPERIENCE

**Contract Engineer** MIGA Motor Company – *Aug 2006 - Present*  
Developing shape memory alloy actuator demonstration kit for BASIC Stamp controller. [migamotors.com](http://migamotors.com)  
Manager: Dr. Mark Gummin.

**Independent Researcher** UC Berkeley – *May 2005 - May 2006*  
Developed low power sensor systems with renewable energy sources. Designed and built wireless thermostat controller.  
PI: Prof. Paul Wright, graduate student advisor: Nate Ota. [dr.berkeley.edu](http://dr.berkeley.edu)

**Independent Researcher** UC Berkeley – *Feb 2005 - May 2006*  
Led the mechanical design of a bipedal robot and built SolidWorks model to be interfaced with PSPICE circuit models to simulate walking dynamics in COSMOSMotion. [nonlinear.eecs.berkeley.edu/raptor](http://nonlinear.eecs.berkeley.edu/raptor)  
PI: Prof. Leon Chua, mechanical advisor: Prof. David Auslander, graduate student advisor: Bharathwaj Muthuswamy.

## SKILLS AND TRAINING

**Project Management** – Berkeley Solar Car *Aug 2005 - Apr 2006*  
Dynamics Team Lead - Responsible for development of steering, suspension, and braking subsystems and integration with body, fairings, and chassis sub groups. Coordinated work amongst three freshman and more experienced students. Taught new members essential knowledge for the design of dynamic vehicle systems. [me.berkeley.edu/calsol](http://me.berkeley.edu/calsol)

**Software Proficiencies**  
SolidWorks with COSMOS, Microsoft Office, EAGLE Layout Editor, PSPICE, AutoCAD, MasterCAM, Java, tinyOS/nesC, MATLAB, C, C++, C#, BASIC, Verilog HDL, MIPS and x86 assembly.

**Construction and Metalworking**  
MIG welding (primarily aluminum), CNC milling, composite processes (carbon and Kevlar vacuum and non-vacuum processes), circuit design, fabrication, and population, rapid prototyping (Stratasys fused deposition modeling).

## PUBLICATIONS AND AWARDS

Nathan Ota, Spencer Ahrens, and Paul Wright, poster: *Residential Energy Management with TinyOS*, TinyOS Technology Exchange III, Stanford, CA, February 2006 – Most Significant Benefit to Society Award.

Demand Response Group, presentation to CA Energy Commission: *Wireless Sensor Networks Reduce Peak Loads in CA*, UC Berkeley, June 2006 – Contributing Student.

B. Muthuswamy, I. Sztamari, L. Chua, S. Sastry, poster: *Cellular Neural Network Based Central Pattern Generators for Bipedal Walkers*, Berkeley EECS Research Symposium 2005, February 2005 – Contributing Student.

North American Solar Challenge 2005 – 2<sup>nd</sup> place in stock class

Engineering 28 Class Competition – Spring 2003 Champions

FIRST Robotics 2002 – Motorola Quality Award

FIRST Robotics 2002 Pacific Northwest Regional Competition – Champions

FIRST Robotics 2002 National Competition – Won first two matches

Da Vinci Days Kinetic Sculpture Competition – Various awards for four vehicles from 1999-2002