

# Ryan Bavetta

766 Loma Prieta Dr., Aptos, CA 95003  
bavetta@gmail.com / (530) 522-8388

## Education

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### Massachusetts Institute of Technology

Cambridge, MA

Bachelor of Science in Mechanical Engineering

*Relevant Coursework:* Design & Manufacturing, The Product Engineering Process, Mechanics & Materials, Modeling Dynamics and Control, Mechanical Engineering Measurement & Instrumentation, Circuits and Electronics, Introduction to Robotics.

## Experience

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### Levant Power Corp

Cambridge, MA

*Design and Test Lead (2008-2009).* Conducted a complete redesign of the regenerative suspension: conceived ideas, modeled, engineered, sourced parts, assisted in manufacture, tested on a shock dynamometer, installed the shocks on a vehicle and analyzed results. The new suspension more than doubled system efficiency and led to at least two new patent applications. On the basis of the test results, created additional designs for the next generation system, which is currently under development.

### MIT Laboratory for Electromagnetic and Electrical Systems

Cambridge, MA

*Mechanical Engineer (2005-2007).* Created electric motor kits now used in many MIT classes. Designed sheet-metal and plastic parts, modeled in SolidWorks and coordinated orders from manufacturers. Additionally, collected data on small-scale Stirling engine performance, designed inexpensive combustion chambers, and created a lesson plan for an educational Stirling engine power plant laboratory project at MIT.

### MIT Media Laboratory

Cambridge, MA

*Computer Programmer (2004).* Created several Macromedia Flash interactive visualizations for querying information from and adding information to the various neural networks created by the group. Assisted in creating an automated web data mining utility.

### Lake Tahoe Online

Truckee, CA

*Computer Programmer / Technical Support (2001-2003).* Created a web interface that allowed employees to access customer information from offsite. Solved computer problems on-site and over the phone.

## Skills

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### Fabrication and Testing

Use of mill, lathe, CNC equipment, injection molding, thermoforming, water-jet, woodworking and other fabrication. Familiarity with FDM, and laser cutting. Lab-based and mobile data acquisition, analysis and process control using Labview, MatLab Simulink and Roehrig Shock

### Computers

SolidWorks, MasterCAM, Labview, MATLAB, HTML, CSS, PHP/mysql, C, Flash, Final Cut Studio, Logic, Photoshop, Illustrator.

## Patents

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"Regenerative control system for energy generators," patent-pending, 2009.

"Regenerative shock absorber system," patent-pending, 2009.

## Activities

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Created the website CrazyBuilders.com, a home projects site with educational intent. Designed and built a 40-foot tall cable swing ride (2005) and a 30-foot tall counterbalanced inverted pendulum ride (2006). Mountain biking, hiking, skiing, kayaking, climbing - generally up for anything.

## Honors, Awards and Publications

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Popular Science Invention of the Year Award, MIT 100k Business Plan Competition Energy Track Winner, MIT Clean Energy Prize Transportation Winner, *Motor Designs for Undergraduate Instruction in Drives*, paper at IEEE Power Electronics Conference, Robert M. Fano Outstanding Undergraduate Research Award