Jesse Austin-Breneman

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Education

Massachusetts Institute of Technology Cambridge, MA
(September 2009-Present) Student in Mechanical Engineering Program. Expected Degree: PhD June 2014

(May 2005) Bachelor of Science degree in Ocean Engineering, **4.8/5.0 GPA**. Relevant coursework: System Design I and II, Mechanics of Solids, Structure mechanics, Undergraduate Research Project

Experience

Universidad de Cayetano Heridia **Development Engineering Consultant** Lima, Peru
(August 2008-June 2009) Worked with team of doctors and technicians developing medical devices for use diagnosing Tuberculosis in Peru.

- Assisted with refinement of image processing algorithm for identifying tuberculosis
- Worked with team of architects designing mobile laboratory based in a shipping container
- Worked to transfer incubator technology to market-ready product
- Developed low-cost anemometers system for certifying artisanal Biological Safety Cabinets

Amazon Conservation Association **Mechanical Engineer** Cusco, Peru
(August 2007-August 2008) Worked developing microenterprise projects for a conservation NGO in rural communities in the state of Cusco.

- Led community workshops identifying and prioritizing problem areas
- Designed and fabricated motorized Sacha Inchi nut sheller
- Built and tested improved cook stove prototype
- Tested and analyzed leaf dryer and essential oil distiller
- Assisted and coordinated MIT student trip to Cusco to work with rural communities

MIT Development Laboratory **Research Assistant** Cambridge, MA
(June 2006-July 2007) Worked as part of a two-person team to redesign Belingberg Peanut Oil Press for use in rural developing countries.

- Redesigned existing lever-driven oil press to be treadle-powered
- Machined and constructed working steel prototype
- Improved ergonomics of machine,
- Designed interchangeable cam system to transfer treadle power

Boston Latin School **Teacher** Boston, MA
(September 2005-June 2007) Developed and implemented interactive curriculum for a variety of math classes ranging from 8th to 12th grade. Also created and implemented intensive review curriculum for students during remedial summer term.

Woods Hole Oceanographic Institute **Summer Student Fellow** Woods Hole, MA
(June 2004-August 2004) Conducted performance analysis of sonar transducer for use in measuring sea floor from autonomous underwater vehicle. Wrote software drivers and performed data analysis.

Skills

Machining: CNC Mill, Lathe, Woodworking, Welding
Computer Languages : Matlab, Solidworks, C++, Labview CVI
Teaching: Curriculum development, classroom management, Spanish fluency

Leadership

MIT East Campus Dorm **President** Cambridge, MA
(January 2004-January 2005) Led executive committee for 400+ resident dormitory. Acted as liaison between students and administration.

Volunteer Experience

Limakids Lima, Peru
(August 2008-June 2009) Worked with network of orphanages in Lima developing mechanical projects suited to the needs of each home. Projects included helping redesign pedal-powered soy milk maker, incubating corn-cob charcoal microenterprises, redesign of website, and developing a kite-building workshop.

Engineers Without Borders Cusco, Peru
(July 2008-August 2009) Coordinated assessment trip and acted as liaison between University of Maryland team and local community. Completed in-depth analysis of water system.