

RYAN JOSEPH ANDRADE

OBJECTIVE

To apply my skills in Mechanical and Mechatronic Design to innovate novel solutions in renewable energy, consumer electronics, and high technology.

EDUCATION

Masters of Science, Mechanical Engineering, Stanford University, June 2011, 3.94/4.00 GPA.

Certificate in Product Creation and Innovative Manufacturing, Stanford PRN, June 2011.

Bachelors of Science, Mechanical Engineering, University of California, Davis, June 2009, 3.98/4.00 GPA,
Graduated Top of UC Davis College of Engineering.

TECHNICAL SKILLS

- **Mechanical Design, CAD/CAM, & FEA:** Solidworks, AutoCAD, Pro-Engineer, Inventor, ANSYS.
- **Software Design & Programming:** C, C++, MATLAB, Assembly Language, focus on embedded systems.
- **Automation and Process Control:** Industrial PLCs (AutomationDirect Direct Logic 205), PID control.
- **Hands-On Mechanical and Electrical:** Mill, Lathe, Laser Cutter, Power Tools, High-Voltage, High-Pressure.
- **Mechatronics:** Microchip PIC, Freescale HC12, Atmel AVR, PCB Design (Altium Designer, Cadsoft Eagle).

PROFESSIONAL EXPERIENCE

Smart Product Design/Mechatronics (ME 218) Teaching Assistant (September 2010 – June 2011)
Stanford University, Stanford, California – Private Educational Institution

- Responsible for co-managing the Stanford Smart Product Design Laboratory and assisting in teaching the design and implementation of Smart Products, Mechatronics, Automation, Robotics, and Mechanical Design.

Powertrain Manufacturing Engineering Intern (June 2010 – September 2010)

Tesla Motors, Inc., Palo Alto, California – High-Performance Electric Vehicle Manufacturer

- Lead several projects to retrofit existing battery pack manufacturing equipment for enhanced operator efficiency and safety. Liaised with vendors and designed mechanical parts and assemblies with Solidworks.
- Managed commissioning, installation, and validation of two new manufacturing processes: Motor Rotor Part Washing and Motor Rotor Induction Brazing. Coordinated seismic bracing, electrical certification, training, etc.
- Executed variety of critical hands-on tasks in the relocation of Tesla's powertrain manufacturing lines and creation of Powertrain Manufacturing Engineering Development Area and Tesla Machine Shop.

Senior Process Engineering Intern (June 2008 – September 2008, June 2009 – September 2009)

BioFuelBox Corporation, San Jose, California – Startup Biodiesel-from-Waste Producer

- Performed plant mass and energy balance of production-scale biodiesel facility, proposed implementation of nitrogen generator to save \$0.10 per gallon in operating costs of producing ASTM-grade B100 biodiesel fuel.
- Developed and installed PID high pressure control system for pilot-scale plant leveraging industrial PLC.
- Evaluated Sonolator technology as potential pre-processing solution for conversion. Recommendation to avoid purchase based on hands-on research translated to direct cost savings of ~\$90,000 in capital expenses.

Mechanical Engineering Intern (June 2007 – September 2007)

Sandia National Laboratories, Livermore, California – United States Government Research Lab

- Supported research and development of prototype hydrogen storage system utilize complex metal hydrides.
- Performed quality assurance hydrogen absorption and desorption tests for hazardous sample material.
- Designed layout of thermal management system using Solidworks, physically assembled in lab.

Mechanical Integration Specialist (August 2006 – June 2007)

UC Davis Hybrid Electric Vehicle (HEV) Center, Davis, California – Plug-In Hybrid Research Group

- Designed, fabricated, and mechanically integrated drive inverter for secondary electric powertrain on prototype Plug-In Hybrid Electric Vehicle (PHEV) for national *Challenge X* student design competition.
- Performed variety of basic integration tasks, including wiring, soldering, welding, fabricating parts, etc.

AWARDS, ACHIEVEMENTS, AND MEMBERSHIPS

- UC Davis College of Engineering Medal 2009
- Stanford University Product Realization Network
- UC Davis ASME Student Chapter, President 2009
- San Benito High School Class of 2005 Valedictorian
- Certified Engineer-in-Training, Passed FE Exam
- Tau Beta Pi, California Lambda Chapter

For More Information and Examples of Past Work, Visit Personal Website: www.ryanandrade.com