

Aaron Nilsen

Aerospace Engineer

Contact: Aaron@TheNilsen.com <http://www.TheNilsen.com> **Location:** Seattle, WA

Education

University of Washington – Seattle, WA

June 2014 – Bachelor of Science in Aeronautical and Astronautical Engineering (BSAAE)

GPA: 3.52

Relevant Experience

2013-2014 – Society for Advanced Rocket Propulsion, University of Washington – Propulsion Technician

- Manufactured and tested hybrid HTPB/Paraffin fuel grains of various compositions in custom 100 lbf. and 1000 lbf. motors. Created LabView interface to record pressure transducer and load cell thrust data.
- Rocket was launched at the Intercollegiate Rocket Engineering Competition conducted by the Experimental Sounding Rocket Association, held in Green River, UT, June 25-28, 2014.

2013 – University of Washington, ZaP Flow Z-Pinch Plasma Experiment – Analyst

- Analyzed experiment data using to determine plasma thruster performance metrics such specific impulse, thrust, and efficiency as part of an undergraduate laboratory project.
- Wrote MATLAB scripts to reduce data and perform calculations using propulsion and plasma physics concepts.

2013 – University of Washington, Incompressible Aerodynamics Class Project – Project Member.

- Improved the design of a commercial toy airplane by increasing theoretical Lift/Drag ratio by over 15%.
- Conducted aerodynamic analysis of wing configurations and airfoil shapes using vortex-lattice methods, and designed a mass-efficient box beam wing support to bear all expected loads with safety factor.

2012-2013 – University of Washington, solid-propellant sounding rocket project – Team Leader

- Managed a small team responsible for designing, constructing, and documenting a rocket avionics and recovery system. Coordinated with other team leaders and participants to meet deadlines and design requirements.
- Designed the parachute system, coordinated electrical components research, assisted in body tube assembly and fin can fiberglassing, and performed soldering work on final product.
- Rocket was launched at the Intercollegiate Rocket Engineering Competition conducted by the Experimental Sounding Rocket Association, held in Green River, UT, June 20-22, 2013.

2010-2011 – Bellevue College – Tutor

- Helped students understand topics in Physics, Chemistry, and Thermodynamics.

Skills

Software: SolidWorks solid modeling, ANSYS stress/strain analysis, LabView user interface and data acquisition, MATLAB/Simulink data processing and simulation, Microsoft Office.

Hardware: Laboratory diagnostic tools, basic machine shop tools.

Personal: Interpersonal communication, collaboration, leadership, innovation and creativity, analysis, modeling and simulation, aerodynamic testing.