Matthew Petersen

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EDUCATION

Sc.B. Hon. Mechanical Engineering, A.B. Assyriology **GPA 3.7**
Brown University, Providence RI (Expected Date of Graduation: May 2017)

COURSEWORK

Engineering: Statics, Dynamics and Vibrations, Electrical Circuits and Signals, Materials Science, Honors Differential Equations (Partial and Ordinary), Electricity & Magnetism, Thermodynamics, Honors Linear Algebra, Power Engineering, Advanced Fluid Mechanics, Soil Mechanics, Advanced Mechanics of Solids, Heat and Mass Transfer, Advanced Engineering Optimization, Scientific Computing in C++

EXPERIENCE

5/2016 - 8/2016	SULI Intern	Tribology Group, Argonne National Laboratory, Lemont, IL
2/2014 - Present	Research Assistant	Henann Lab, Brown University, Providence, RI
3/2014 - Present	House Manager	Technology House, Brown University, Providence, RI
5/2014 - 8/2014	Intern	NuScale Power LLC, Corvallis, OR
8/2012	Intern	Microproducts Breakthrough Institute, Corvallis, OR

SKILLS

Experimental Design and Characterization

- *Argonne:* Performed metallographic sectioning. Operated micro-pitting rig tribometer to investigate white-etching cracks. Characterized crack structure and compared cracking in field specimens and laboratory samples.
- *Henann Lab:* Developing models for granular flow. Built a bench-top lab setup to obtain experimental data. Worked with Franck Lab to mechanically characterize a novel polymer foam using digital image correlation.
- *Microproducts Breakthrough Institute:* Worked in the Jovanovic lab on characterizing and manufacturing embossed microchannel artificial dialysis systems. Worked with a wide range of equipment: optical profilometer, vacuum hot press, CO2 CNC laser cutter, plasma etching chamber, vacuum furnace. Developed process macros for dialysis plate production, and characterized a batch of embossing plates produced using a unique method.

Engineering Analysis

- *NuScale Power:* Worked in Reactor Module Design Group on mechanical design analysis using ANSYS Mechanical simulation software and SolidWorks. Prepared mechanical simulation models. Worked with industry professionals to prepare calculations and documents. Reviewed supplier drawings and created derived CAD files. Worked in an organization conforming to ASME Nuclear Quality Assurance standards.
- Fluent in: C++, MATLAB, UNIX, ANSYS simulation software, COMSOL Multiphysics

Design and Program Management

- Program Manager for Brown Building Society - coordinate student teams to design and build. Current project: 2-person, twin-engine hovercraft.
- *Technology House:* Manage cleaning and housing arrangements for 50-person program house; assign cleaning shifts and coordinate with Department of Residential Life.
- Project Lead for Brown Amateur Radio Club carrier current broadcasting system.
- Proficient in CAD (SolidWorks, Autodesk Inventor)
- Fabrication and construction experience - machining, welding, other hand and machine operations

Writing and Communication

- Extensive technical and academic writing experience
- *Argonne:* Produced research report and symposium poster
- *Henann Lab:* Produced research symposium presentation poster, currently producing Honors Thesis
- Representative on University Library Advisory Board, involved in increasing student engagement
- Fluent in LaTeX document preparation language
- Proficient in Microsoft Office and Adobe graphics and publication products

INTERESTS

Societies
ASME, Brown Chapter Co-President
Extracurriculars
Brown Amateur Radio Club
Brown Building Society (Project Manager)
Brown University Band (Trombone)

References available upon request