Matthew Petersen

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EDUCATION

Double degree **Sc.B. Hon. Mechanical Engineering**, A.B. Assyriology **GPA 3.8**
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

11/2016 - 12/2016	Projects TA	Fluid Mechanics (ENGN 0810), Brown University
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 granular flow models for Honors Thesis. 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.
- *ENGN 0810:* Developed final project for fluids course. Worked with wind tunnel and data-acquisition hardware to design project for students.
- *Microproducts Breakthrough Institute:* Worked in the Jovanovic lab on characterizing and manufacturing embossed microchannel artificial dialysis systems. Worked with a wide range of manufacturing and characterization equipment. Developed process macros for dialysis plate production, and performed profilometry on batches of specimen embossing plates.

Engineering Analysis and Software

- Fluent in: C++, MATLAB, UNIX systems, ANSYS Mechanical, COMSOL Multiphysics, ABAQUS, SolidWorks, Autodesk Inventor
- *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.

Design and Program Management

- Fabrication and construction experience - machining, welding, other hand and machine operations
- 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.

Writing and Communication

- Elementary proficiency in German, Japanese, Akkadian
- Extensive technical and academic writing experience
- Fluent in LaTeX document preparation language
- Extensive academic writing experience in course of Assyriology degree
- Proficient in Office products, Adobe, some proficiency in HTML, CSS
- *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

HOBBIES

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

References on reverse

REFERENCES

David L. Henann–Academic Advisor, James R. Rice Assistant Professor of Engineering
Email: david_henann@brown.edu

Aaron Greco–Supervisor, Argonne National Laboratory, Tribology Group (Summer 2016)
Email: greco@anl.gov