

# Matthew Petersen

## Address

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**EDUCATION** Sc.B. Hon. Mechanical Engineering, A.B. Assyriology. *Magna Cum Laude* (GPA: 3.7/4.0)  
Brown University, Providence RI, May 2017

**COURSEWORK** *Engineering:* Focus on solid mechanics and mathematical methods, including soil mechanics. Other courses: Electricity and Magnetism, Power Engineering, C++, Heat and Mass Transfer, Thermodynamics, Circuits and Signals, Basic Geology. *Assyriology:* Focus on ancient cities and relations to modern city planning, ancient Mesopotamian technical texts, and middle Babylonian irrigation.

**POSITIONS**

9/2017 - 3/2019	Development Engineer	Festo Corporation, Billerica, MA
5/2016 - 8/2016	SULI Intern	Tribology Group, Argonne National Laboratory, Lemont, IL
2/2014 - 5/2017	Research Assistant	Henann Lab, Brown University, Providence, RI
5/2014 - 8/2014	Intern	NuScale Power LLC, Corvallis, OR

## SKILLS

### Analysis and Design

- *Festo:* Work using commercial and proprietary engineering component analysis tools, make use of FEA and FEM to drive design decisions. Use Matlab/Simulink to design system models and perform simulations. Familiar with geometric product specification standards.
- *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.
- Experience with image processing and spatial data analysis in MATLAB
- Experience in: C++, MATLAB/Simulink, UNIX, ANSYS simulation software, COMSOL Multiphysics. Experience with QGIS GIS Package.

### Experimental Design and Characterization

- *Festo:* Utilize gravimetric and photometric methods to evaluate and develop liquid handling systems. Conduct experiment design for development tests. Use real-time systems to perform rapid control prototyping.
- *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:* Developed 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. Wrote analysis protocol in MATLAB to process images and analyze data.

### Program Management and Manufacturing

- *Festo:* Work as product developer for liquid handling products. Responsible for technical planning and development work. Perform market and background research for product development. Analyze patent and technical documents for relevance.
- Proficient in CAD (SolidWorks, Autodesk Inventor, Creo/ProE)
- Fabrication and construction experience - machining, welding, other hand and machine operations.

### Writing and Communication

- A2-B1 German proficiency
- Extensive technical and academic writing experience
- *Argonne:* Produced research report and symposium poster
- *Henann Lab:* Produced research symposium presentation poster and Honors Thesis
- Fluent in L<sup>A</sup>T<sub>E</sub>X document preparation language
- Proficient in Microsoft Office and Adobe graphics and publication products

## INTERESTS

Equitable public transit  
Sewing  
Rock climbing  
Cycling

References available upon request