

Noah Plues

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EDUCATION

University of Virginia - Charlottesville, VA
May 2022

August 2018 –

- B.S. Mechanical Engineering, Minor: Applied Mathematics
 - Activities and Societies: 3-D Printing Club, Virginia Pistol and Rifle Club
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EMPLOYMENT/PROJECT HISTORY

Engineer, Center for Emerging Energy Sciences - Lubbock, TX

Apr. 2023 - Present

- Assisted with the storage of Lithium Hydroxide and Lithium Deuteride powder samples into quartz glassware.
- Drew full-scale 3-D models of horse nebulizer mask designs based on prior art created by Flexineb USA for peer review using Autodesk Inventor.
- Assisted with the processing and heat treatment of erbium samples for eventual use as rocket propellant.
- Assembled and maintained Crealty 3-D Printers for printing of large-scale designs.

Non-Nuclear Submarine Piping Engineer, Norfolk Naval Shipyard - Portsmouth, VA
Mar 2023

Feb 2023 -

- Completed deficiency reports for the order of spare material in alignment with parent documents and the inspection of incorrect weld designs per online technical drawing databases.
- Ensured that work was performed in alignment with submarine safety and cleanliness regulations and that noise critical equipment was handled and transported in a manner that minimizes damage.
- Performed visual inspection tests on submarine hull cutouts with other engineers and shop technicians.

Nuclear Refueling/Equipment Engineer, Norfolk Naval Shipyard - Portsmouth, VA

July 2022 – Feb 2023

- Completed Technical Work Documents for the re-identification, storage, shipping, and disposal of spare nuclear reactor components for various operations including the inactivation of projects performed at offsite facilities.
- Ensured that parts found in storage adhered to drawing specifications found on shipyard databases.
- Managed photographs of equipment taken by U.S. Government-owned digital cameras for the purpose of enhancing document quality.
- Met with the team to discuss Nuclear Safety considerations and confidential training sessions for familiarization with nuclear reactor systems.
- Assisted in the creation of competency card curricula to aid new hires without a proper Mechanical Engineering background in learning various concepts such as Tool Design, Joining Methods, and Mechanics of Materials.

Teaching Assistant, University of Virginia - Charlottesville, VA

Aug 2021 – May 2022

- Assisted third-year undergraduate students taking various laboratory classes perform experiments and operate equipment during classroom sessions.

- Helped students achieve fluency with basic electronic circuitry, data acquisition models, and NI LabView virtual instruments.
- File-dropped initial and revised drafts of lab reports among a roster of over 100 students.
- Monitored four team-project posters during an in-class exposition and assigned grades based on presentation quality, level of technical detail, and uncertainty analysis.
- Performed compression and bending test demonstrations to visiting students attending 3M academy, an institution that aided disadvantaged youth in STEM education, with 3-D printed PLA, wood, and chalk samples with the assistance of PASCO Capstone software.
- Cut and machined 1018-steel lap joint samples for tensile test simulation, directed towards second-year undergraduates.

Solar Tracker Capstone Project, AltEnergy LLC – Charlottesville VA

August 2021 – May 2022

- Developed basic algorithms in Arduino C for the routine motion of a NEMA-23 stepper motor for the purpose of tracking the sun.
- Designed trial mockups of the tracker on CAD software test weight distribution as a function of tilt angle and wind speed using CFD simulations.
- Contracted with campus facilities management to ensure approval for tracking system installation as well as licensed tradesmen for the testing and verification of large-scale electrical components.
- Created an integrated microcontroller system that featured two modes of motor control, a piezoelectric buzzer and LED failsafe, and a liquid crystal display screen for supplementary messages.
- Purchased and transported donated solar panels for future use from Altenergy LLC (currently a subsidiary of Tiger Fuel Company).

Research Assistant, Joint Hypersonics Transition Office - Charlottesville, VA October 2021

June 2021 –

- Performed academic research under the supervision of a professor and Ph.D. student in the effort of advancing the development of hypersonic jet engines.
- Simulated the behavior of entropy-stabilized alloy MgNiCoZnCuO₅, used as a thermal protection agent in hypersonic vehicles, using molecular dynamics software packages from Sandia National Labs.
- Wrote MATLAB scripts to enable the analysis of over 20 trials of data of the behavior of five cubic supercell sizes, ranging from 125 to over 10⁴ unit cells.
- Derived the thermal conductivity and elastic constants from the heat flux and pressure tensor data, respectively, using statistical autocorrelation and variance relationships.
- Research aligned closely with the JHTO and DARPA research priorities of Materials, Structures, and Thermal Protection Systems and Hypersonic Environments and Phenomenology.

LICENSES AND CERTIFICATIONS

- Swagelok Oklahoma | West Texas - Tube Fitting Installation Essentials May 2023
 - Norfolk Naval Shipyard
 - Technical Work Document Training Oct 2022
 - Radiation Worker Training Sep 2022
 - Lean Six Sigma Yellow Belt Training Aug 2022
 - NCEES - Fundamentals of Engineering Exam - Mechanical Jun 2022
 - Dassault Systèmes - Certified SOLIDWORKS Associate in Mechanical Design Dec 2021
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TECHNICAL AND COMPUTATIONAL SKILLS

- MS Office Suite
- 3D-CAD/CAM Software
- Microcontroller Programming