

# Alyssa Malencia

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## Summary

Engineer and project manager with 5+ years of experience in nuclear, electrical, and software systems, specializing in I&C, thermal-hydraulic analysis, and technical writing. Led \$10M+ projects, enhanced safety-critical systems across 3 reactor designs, implemented efficiency improvements saving 40+ work-days annually, and increased nuclear thermal performance via improved analyses and design bases. Adept at regulatory compliance, troubleshooting urgent issues, and optimizing performance.

## Key Skills

- Nuclear Engineering
- Project Management
- Technical Writing
- Regulatory Compliance

## Professional Experience

### Naval Reactors

June 2018 – September 2023

*General Responsibilities: Engineer, Project Manager, Regulator, Instructor*

*Washington, DC*

- **Engineer (June 2018 – June 2020):** Responsible for improving nuclear I&C maintenance, test programs, and software functional requirements and resolving urgent technical issues. Major accomplishments in this role include:
  - Resolved **3 urgent technical issues** preventing unnecessary reactor shutdowns.
  - Improved **4 nuclear I&C test programs** by reducing overall testing length by **60 days**.
  - Oversaw improved procedures and descriptions in **more than 7 technical manuals**.
- **Lead Engineer (June 2020 – September 2023):** Responsible for managing I&C programs and nuclear thermal-hydraulic analyses for advanced aircraft carriers and submarines. Major accomplishments in this role include:
  - Led **major software and hardware upgrades** for **3 safety-critical I&C systems**.
  - Resolved **3 legacy electrical noise design issues**, improving system stability.
  - Responded to **20+ priority correspondence items** annually.
  - Managed completion of **safety-critical nuclear analyses**, ensuring safe nuclear operation.
  - Played a key role in the **successful execution** of a full ship shock trial event.
  - Optimized **electrical system technical manuals**, reducing maintenance by multiple work-years.
  - Managed **aircraft carrier I&C construction test programs**, meeting major milestones.
  - Taught **2 naval nuclear I&C classes** annually, ensuring safe nuclear reactor operation.

## Education

### Pennsylvania State University

August 2014 – May 2018

*B.S. in Nuclear Engineering, Minors in Mathematics Applications and Military Studies*

*State College, PA*

- **GPA:** 3.86
- **Distinctions:** Cum Laude, Schreyer Honors College, Honors in Nuclear Engineering
- **Relevant Coursework:** Research Experience using TRACE and RELAP5, Nuclear Reactor Core Design, Advanced Reactor Design, Radiation Shielding, Design of Reactor Systems, Linear Programs, Honors Matrices, Heat Transfer, Fluid Flow, Engineering Thermodynamics, Advanced Calculus, Reactor Physics

## Additional Courses

### Bettis Reactor Engineering School

March 2019 – August 2019

*Certificate of Completion*

*West Mifflin, PA*

- **Relevant Coursework:** Reactor and Power Plant Design, Reactor Plant Dynamics Control and Safety, Heat Transfer and Fluid Flow, Applied Structural Mechanics, Reactor Theory, Integrated Reactor Plant Development, Radiation Shielding

### CircuitStream Game Development Bootcamp

February 2024 – October 2024

*Certificate of Completion*

*Online Course*

- **Curriculum:** Unity Game Engine, C# Project Development, Multiplayer Game Development, Data Structures and Algorithms, Game Architecture, Networking API, Software Development

## Skills

### Engineering/Technical Skills

Technical Writing  
Reactor Analysis  
Root Cause Analysis  
Data Analysis  
MATLAB  
LaTeX

### Software Development Skills

C#  
HTML  
Github  
Unity Game Engine  
Web Development  
C++

### Leadership Skills

Executive Interaction  
Cross-Functional Coordination  
Risk Assessment  
Proven Instructor  
Agile Development  
Microsoft Office

## Major Awards

**Navy and Marine Corps Commendation Medal (2023):** Recognized for exceptional engineering and project leadership in resolving high-priority technical and regulatory challenges in naval nuclear systems.