

# Jack Hogan

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Double major in Computer Science and Artificial Intelligence with extensive experience in software engineering, AI/ML, and leadership roles in tech organizations. Has worked with a wide variety of machine learning models and frameworks.

## Education

### Purdue University Honors College

Fall 2022 — Spring 2026

*Computer Science B.S., Artificial Intelligence B.S.; Minor in Mathematics*

*West Lafayette, IN*

- 3.7 GPA
- Relevant Coursework: Data Structures, Machine Learning, Artificial Intelligence, Analysis of Algorithms, Abstract Algebra

## Work Experience

### Leidos Innovation Center

Summer 2024 — Present

*Software Engineering Intern, High-Performance Systems*

*Arlington, VA*

- Created and refined GPU-based signal processing algorithms in CUDA, Rust, and Python for real-time applications, improving performance by 400%.
- Developed a real-time machine learning system to lock onto hidden radar targets using PyTorch with 85+% accuracy.
- Resulting work will be deployed to active defense platforms.

### Peraton

Summer 2023 — Present

*Software Engineering Intern*

*Chantilly, VA*

- Automated document processing systems using AI-based parsing systems to increase processing efficiency.
- Authored and presented a whitepaper on systems and processes developed, managing daily intern standups.
- Created ticket and process management websites for U.S. contractors.

### Alluja LLC

2020 — Present

*Founder*

*Chantilly, VA*

- Creator of multiple products including mobile apps (SwiftUI), libraries (Swift, Rust), backend servers (Rust, Python), and frontends (Svelte, Leptos) impacting 5,000+ users.

## Research & Leadership

### Detecting Source Code Plagiarism in Submitted Assignments

Spring 2023 — Present

*Lead Researcher*

*West Lafayette, IN*

- Leading a faculty-selected research team focused on solutions for source code plagiarism in Purdue's Computer Science program.
- Researching Abstract Syntax Trees, source code lexing and parsing, and machine learning techniques.

### Purdue Hackers

Jan 2024 — Present

*Engineering Division Lead*

*West Lafayette, IN*

- Overseeing all engineering projects, managing time and budget restrictions while keeping engineering officers on pace.
- Managing the infrastructure for the Passports initiative, including authentication and management systems written in Rust and TypeScript.

### Purdue Orbital

Jan 2023 — Jan 2025

*Avionics Design Lead*

*West Lafayette, IN*

- Led a team of 15+ members to create a custom fault-tolerant system for rocketry systems.
- Developed systems for collecting data for avionics missions using Rust.

## Skills & Associations

- **Programming Languages:** Java, C#, Python, SQL, MongoDB, Swift, Kotlin, Svelte, JavaScript, TypeScript, HTML, CSS, Rust, C, C++
- **Technologies:** SvelteKit, Django, Actix Web, Flask, Spring Boot, Express, SwiftUI, UIKit, Jetpack Compose, React, Leptos, GStreamer, Unix, Systemd, PulseAudio, CUDA, CUTLASS, NumPy, PyTorch, Pandas, Burn, SciPy, Astro
- **Platforms:** EC2, ECS, S3, Docker, Docker Compose
- **Associations:** Purdue Orbital, Purdue Hackers, Purdue University Ski & Snowboard Club, Boiler Book Club, Purdue Theme Park Engineering & Design, Mensa International