Jack Hogan

📞 703-919-2976 @ jackhogan11@gmail.com 🔗 www.jackhogan.me gh/ImTheSquid in/jackhogan11

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.

Experience

Leidos Innovation Center
Software Engineering Intern, High-Performance Systems

📅 Summer 2024 — Present   📍 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
Software Engineering Intern

📅 Summer 2023 — Present   📍 Chantilly, VA

- Automated document processing systems using AI-based parsisng 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
Founder

📅 2020 — Present   📍 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
Lead Researcher

📅 Spring 2023 — Present   📍 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
Engineering Division Lead

📅 Jan 2024 — Present   📍 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
Avionics Design Lead

📅 Jan 2023 — Jan 2025   📍 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.

Objective

Aspiring researcher with a passion for AI/ML, low-level programming, and full-stack development. Seeking opportunities to leverage technical expertise, leadership skills, and a commitment to innovation in challenging and impactful projects.

Education

Purdue University Honors College
Computer Science B.S., Artificial Intelligence B.S.; Minor in Mathematics

📅 Fall 2022 — Spring 2026   📍 West Lafayette, IN

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

Skills/Exposure

- Java
- C#
- Python
- SQL
- MongoDB
- Swift
- Kotlin
- Svelte
- JavaScript
- TypeScript
- HTML
- CSS
- Rust
- C
- C++
- 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

Tools

- 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