

# Jack Hogan



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## WORK EXPERIENCE

Leidos Innovation Center  
**Software Engineering Intern**

SUMMER 2024

- Created and refined GPU-based signal processing algorithms in **CUDA**, **Rust**, and **Python** for real-time applications
- Created real-time **machine learning** system to lock onto hidden radar targets with **PyTorch**

Peraton  
**Software Engineering Intern**

SUMMER 2023

- Led the expansion of **ServiceNow**'s new **Artificial Intelligence** module using **JavaScript** and Document Intelligence including custom input, parsing, and customer interfaces
- Authored and presented a whitepaper on systems and processes developed while managing daily standups with the intern team

Purdue Orbital  
**Avionics Design Lead**

2023 – PRESENT

Leading a team working to create a fault-tolerant and compact system to activate rocketry systems while collecting data for avionics missions with **Rust**.

Purdue Hackers  
**Passport Infrastructure Officer**

2024 – PRESENT

Spearheading and managing all infrastructure related to our Passports initiative, including the authentication and management systems written in **Rust** and **TypeScript**.

Alluja LLC  
**Founder**

2020 – PRESENT

Alluja LLC is a dynamic startup involved in multiple technical projects and initiatives including mobile apps written in **SwiftUI**, libraries in **Swift** and **Rust**, backend servers in **Rust** and **Python**, frontends in **Svelte** and **Leptos**, and BetterDiscord plugins in **TypeScript** with over 5,000 users.

## EDUCATION

2022-2026 **Bachelor of Science Candidate**  
*Purdue University Honors College*  
Double Major: Computer Science & Artificial Intelligence  
Minor: Mathematics  
3.6 GPA

## RESEARCH

**“Detecting Source Code Plagiarism in Submitted Assignments”**

Selected for faculty research position leading a group of five focused on developing solutions for source code plagiarism in the Purdue Computer Science program . Research areas include Abstract Syntax Trees, source code lexing and parsing, and machine learning.

## PROGRAMMING LANGUAGES

BACKEND	Java, C#, Python, SQL, MongoDB
FRONTEND	Swift, Kotlin, Svelte, JavaScript, TypeScript, HTML, CSS
LOW-LEVEL	Rust, C, C++

## FRAMEWORKS

BACKEND	SvelteKit, Django, Actix Web, Flask, Spring Boot, Express
FRONTEND	SwiftUI, UIKit, Jetpack Compose, React, Svelte, Leptos
LOW-LEVEL	GStreamer, Unix, Systemd, PulseAudio, CUDA, CUTLASS
AI/ML	NumPy, PyTorch, Pandas, Burn, SciPy

## PLATFORMS & SERVICES

- AWS EC2, ECS, S3, etc.
- Docker, Docker Compose

## RECOGNITION

2022 **Outstanding Graduate in Technology**  
*Chantilly High School (1550 SAT)*

## CLUBS & ASSOCIATIONS

- Purdue Orbital
- Purdue Hackers
- Purdue University Ski & Snowboard Club
- Boiler Book Club
- Purdue Theme Park Engineering & Design
- Mensa International