

JOSHUA (HAWON) CHO

Top Secret Security Clearance

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EDUCATION

Univeristy of Michigan, Ann Arbor

Ann Arbor, MI (2022-2026)

Majors: Computer Science / Statistics

- **Honors and Awards:** Deloitte CTC Finalist, NHTSA CyberAuto 2024 CTF Winner, MITRE eCTF 3rd
- **Activities:** WolvSec Cyber Security Club, UofM ICPC, Korean-American Scientists/Engineers Association
- **Coursework:** Data Structures/Algorithms, Operating Systems, Distributed Systems, Computer Organization, Computer Security, Election Cybersecurity, Linear Algebra, Statistics & AI, Applied Regression

WORK EXPERIENCE

Incoming Vulnerability Research Intern | [Battelle](#)

Columbus, OH (FA 2025)

- Incoming for Fall 2025

Security Engineering Intern | [Millennium Management](#)

New York, NY (SU 2025)

- Supported the Data Security team within the Infrastructure Technology department
- Engineered a standardized **OAuth 2.1** authorization plugin package for internally developed **MCP servers**
- Created **PoCs of vulnerabilities** and ratings for LLMs supporting a rollout of **AI coding** agent platforms
- Wrote a .NET Core microservice to serve signed **HTTPS client certificates** to internal clients with encrypted credentials integrating with apps such as **KeyFactor**, **ServiceNow**, and **Azure Key Vault**

Software Engineering Intern | [Northrop Grumman Space Systems](#)

Dulles, VA (SU 2024)

- Conducted standardized tests with various models, achieving a **27% increase** in code and branch coverage.
- Processed over **500,000** lines of code and **10,000** test cases to create a comprehensive dataset with the purpose of enhancing **transfer learning and fine-tuning** of pre-trained models.
- Collaborated with Security Engineers to mitigate known ML vulnerabilities, resulting in a **80%** detection rate.
- *Further details restricted by NDA*

Product Development Intern | [Block Harbor Cybersecurity](#)

Troy, MI (SU 2023-WN 2024)

- Increased physical connected vehicles/test benches by **3x**, reduced communication delay from **17ms to 2ms**
- Merged newly written code with pre-existing OSS in C and Python order to link up CAN network traffic and Automotive Ethernet from a physical vehicle to end users around the world
- Fixed 20+ bugs based on user feedback, improving platform stability and UX for over **1000 active users**.

PROJECTS

[PLAIN](#)

(March 2025)

- Engineered a full-stack **Electron-based desktop application** for interactive 3D aircraft model visualization, leveraging **Three.js**, **GLTF loaders**, and modular rendering pipelines
- Structured Electron's **multi-process architecture** to bridge native capabilities with a rendering engine

[Paxos-Based Sharded Key-Value Store](#)

(Jan 2025)

- Designed a **GoLang** fault-tolerant, sharded key/value store using **Paxos-based consensus** within replica groups and a separate **Paxos-replicated shard master** to coordinate dynamic reconfiguration.
- Implemented shard transfer/deduplication to ensure **single-copy semantics** and fault-tolerant reconfiguration

[WolvCTF](#)

(March 2023/2024/2025)

- Wrote cybersecurity challenges for WolvSec CTF with **1500+ participants** attempting and solving the challenges designed and implemented through **Docker**, **Kubernetes**, **GCloud Hosting**, and **CTftime**
- Developed multiple AI/ML challenges, involving sentiment analysis, model trainings, and hash collisions.

[PassLess](#)

(September 2023)

- Led the development process of a **cryptographically** secure web-based Password Manager
- Implemented Client-Side Encryption with **WebAuthn** and **PBKDF2**, utilizing **MySQL** as the database.

SKILLS

Languages - C++, Python, Rust, Go, C, JavaScript/TypeScript, C#, SQL, Shell, Assembly, R

Technologies - **Dev Tools:** Git, AWS/GCP/Azure, Kubernetes, Terraform, WireGuard, WireShark, VM/Hypervisors
Fullstack: React, Node.js, Flask, OpenAPI, Nginx, Swift, Cypress.js, Swagger.js, PostgreSQL, MongoDB
ML: PyTorch, TensorFlow, NumPy, Keras, Pandas, LightGBM, Ollama, MCPs

Certifications - Security+ 601CE