

# William (Liam) Snow IV

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## EDUCATION

### Worcester Polytechnic Institute

*BS in Electrical & Computer Engineering*  
*MS in Computer Science*

Worcester, MA

Aug 2022 — May 2026

## SKILLS

- **Programming Languages:** Rust, Golang, C, C++, Java, C#, Python, TypeScript, JavaScript
- **Technologies:** REST, WebSockets, Multi-threading, Async/Await, SQL (SQLite, PostgreSQL, RDS), NoSQL, Linux (Arch, Debian), Unix, Git, GitHub, CI/CD (GitHub Actions), Tokio, Axum, Actix, Dioxus, Leptos, Protobuf

## PROJECTS

### opensleep (120★) ([liamsnow.com/projects/opensleep](https://liamsnow.com/projects/opensleep))

Nov 2024 — Present

- Developed open source firmware for the Eight Sleep Pod 3 in Rust
- Reverse-engineered two custom USART protocols, reimplemented using custom Tokio codec
- Adds Home Assistant integration (via MQTT), custom temperature profiles, remote configuration, presence detection, and privacy

### igloo ([liamsnow.com/projects/igloo](https://liamsnow.com/projects/igloo))

Jan 2025 — Present

- Building open-source smart home platform in **Rust** as Home Assistant alternative; integrates ESPHome, HomeKit, MQTT with visual programming language for automations
- Built Entity-Component-System (ECS) model, allowing for strict component types while remaining extensible to new device types without core changes
- Implemented query engine achieving **>1 million queries/sec** throughput with 4µs average latency. Internally (without channel overhead) queries execute in an average of **200ns**.
- Built extensive code generation system producing Component enums, type conversions, aggregators, and Python bindings from TOML definitions
- Created custom IPC protocol with forward-compatible schema evolution using length-delimited Bincode over Unix sockets

## WORK EXPERIENCE

### Security Intern

Jun 2025 — Aug 2025

Cyera, Inc.

Remote

- Developed a security investigation summarizer Slack bot in Golang
  - Saves >100 hours a year of manual work by security engineers
  - Collects data from Slack and other sources and builds a report using AWS Bedrock in ~1 minute
- Made VM automation which automatically finds new CVEs across multiple security tools (Snyk, Upwind, etc.) and sends results over Slack
- Developed security news article downloader which automatically scrapes readable content from web pages and formats them into a NextJS article reader
- Made dashboard which displays security team's contributions to sales. Uses Atlassian Jira and Salesforce APIs in Golang

### Software Intern

Jun 2023 — Aug 2024

Phreesia, Inc.

Remote

- Worked on a team to develop a complete rewrite of the Integrations software using .NET Core & Websockets
- Developed Atlassian Confluence RAG chatbot to help users find answers and cite sources
  - Used Confluence API, OpenAI embeddings, ChromaDB, and LangChain

### Software Intern

Jun 2019 — Oct 2020

Naval Postgraduate School

Monterey, CA

- Worked under Professor Ray Gamache for programming and assembling robots
- Programmed LIDAR, ultrasonic, radar, AHRS, and GPS sensors in LabVIEW