William (Liam) Snow IV

mail@liamsnow.com | github.com/liamsnow | linkedin.com/in/william-snow-iv-140438169 | liamsnow.com

EDUCATION

Worcester Polytechnic Institute — Worcester, MA
BS in Electrical & Computer Engineering
MS in Computer Science — *Aug 2022 — May 2026*

SKILLS

- **Programming Languages**: Rust (2 years), 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 (113★) (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) — 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