Jeremy Mark Tubongbanua

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SKILLS

Programming Languages: C, C++, Java, Python, JavaScript, TypeScript, HTML, CSS
Frameworks & Libraries: React, Node.js, Express, MbedTLS, Espressif-IDF, Arduino
Tools & Technologies: Docker, Git, CMake, Maven, Linux, Fusion 360, 3D Printing, CI/CD (GitHub Actions)
Soft Skills: Leadership, Communication, Team Collaboration, Project Management, Mentorship

EDUCATION

University of Ontario Institute of Technology   Sep. 2021 – Apr. 2025
Bachelor of Engineering, Software Engineering   *Oshawa, ON*

- cGPA: 3.88 (4.0 Scale)
- Relevant coursework: Systems Programming, Software Design and Architecture, Data Management Systems, Design and Analysis of Algorithms, Computer Networks, Introduction to AI, Operating Systems, Software Quality, Software and Computer Security, Embedded Systems, and Machine Learning

WORK EXPERIENCE

Software Engineer (Contract Part-Time)   Aug. 2022 – Present
Atsign   *San Jose, CA*

- Lead C developer overseeing the design, development, and maintenance of multiple SDKs used across Atsign products, ensuring secure IoT communication and edge encryption between networking devices used in real customer environments
- Represented Atsign at CES 2024 and Embedded World 2024, collaborating with the Qt Company to develop and showcase innovative IoT demos, including a smart IoT plant and an automated beverage dispenser
- Actively contribute to cross-functional team communication, providing technical support to marketing, assisting with intern mentorship and recruitment, and participating in daily stand-up meetings

Technology Intern   Jun. 2022 – Jul. 2022
Atsign   *San Jose, CA*

- Implemented CRAM authentication and CRUD operations in Java version of company SDK
- Led a complete revamp of the developer website using HTML, CSS, and JavaScript; utilized the Hugo framework to create a standardized structure for developer documentation, making it easier for technical writers to add new content uniformly to the site
- Facilitated a YouTube initiative with five other interns; took ownership of the YouTube channel and published educational content

LEADERSHIP EXPERIENCE

Vice President of Communications   Apr. 2023 – Apr. 2024
Ontario Tech University Computer Science Club   *Oshawa, ON*

- Led internal and external communications, managed sponsorship acquisition, and coordinated career-building workshops and events for the club

Robotics Judge Advisor   Nov. 2022 – Dec. 2023
Mary Ward FIRST Lego League Qualifier   *Toronto, ON*

- Served as Judge Advisor, coordinating 25 adult volunteers and 4 student timekeepers, overseeing judging of robotics teams and ensuring judging standards are upheld
- Communicated safety expectations and event logistics to event attendees, ensuring safe and efficient operations

Cpp North Volunteer   Jul. 2023
CppNorth   *Toronto, ON*

- Created and presented my own lightning talk on my experiences with carpal tunnel syndrome as a programmer with 50+ live attendees
- Volunteered in set up, tear down, and as a camera volunteer and time keeper for the full duration of the three-day long conference

PROJECTS

Atsign C SDK | *C, CMake, IoT, Cryptography, Networking, Cross-Platform Development*   Sep. 2024
- Lead developer of the C SDK, enabling secure IoT communication for devices in lower-level constrained environments
- Developed core AES-256 and RSA-2048 cryptographic implementations, end-to-end encryption, and atProtocol operations in C99 using MbedTLS, Espressif-IDF, and CMake
- Successfully used SDK as a core dependency for the NoPorts product, enabling remote access for lower-level operating systems like OpenWRT without exposing open port vulnerabilities, where SDK was used in real customer settings

Atsign NoPorts C Daemon | *C, CMake, Cryptography, Networking*   Sep. 2024
- Developed C Daemon software, enhancing the user experience for customers seeking a frictionless security solution while retaining their existing remote access setups
- Developed initial SSH NoPorts Docker end-to-end regression tests that simulated and tested the full NoPorts handshake between two Docker containers without opening any external ports
- Enhanced software stability and security by ensuring NoPorts operates without traditional port exposure, over long durations, and is free from memory leaks, utilizing tools like Valgrind and AddressSanitizer

jeremymark.ca | *Node.js, React, Tailwind, Docker, Linux*   Sep. 2024
- Designed and developed personal portfolio website in React and Tailwind CSS, featuring project/experience filtering, integration with the Spotify API, and a custom framework for easily adding and displaying new content
- Deployed on a Linux VPS using Docker Compose with three containers: one for the React web app, one for the Spotify API (on the subdomain spotify.jeremymark.ca), and an Nginx service for traffic routing, with SSL certificates for secure HTTPS access

Atsign ESP32 SDK | *C++, IoT, Cryptography, MbedTLS*   Jun. 2023
- Lead developer of the C++ ESP32 Arduino SDK, enabling ESP32 Arduino developers to utilize the atProtocol for secure IoT communication via edge encryption
- Developed core AES-256 and RSA-2048 cryptographic implementations, end-to-end encryption, and atProtocol operations in C++ using Arduino IoT Development Framework
- Library was successfully used as a core dependency in UMass Boston's 2022/2023 Computer Science final projects, utilized by 125 students

Timber | *Spigot API, Java, Maven*   Apr. 2019
- Developed and deployed Minecraft plugin published on SpigotMC allowing trees to be broken in one break, using recursive principles
- Achieved a peak of 15 concurrent servers using the plugin and 2.5k+ downloads

AWARDS

IEC 2023 Consulting   Nov. 2023
1st Place in Consulting & 2nd Place Overall
- Awarded 1st place for outstanding project performance and innovation in the IEC Consulting competition

NASA Space Apps 2023   Sep. 2023
3rd Place Overall & People's Choice Award
- Secured 3rd place and received the People's Choice Award for developing a Python game utilizing NASA Space Apps data

Schulich Hacks 2023 (Calgary)   Apr. 2023
2nd Place Overall & Best UI/UX
- Achieved 2nd place and awarded Best UI/UX for developing a user-friendly application for making eco-friendly conscious product purchasing decisions

University of Washington Blockchain Hackathon   May. 2021
1st Place Overall
- Won 1st place by developing a blockchain Discord bot that gamifies cryptocurrency for the layman