POH WEI PIN

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Backend Software Engineer (C++ | Go | Python)

EDUCATION

National University of Singapore   **Aug 21 – July 25**
Bachelor of Engineering - Computer Engineering Graduate (Honors)
- **Graduation Date: July 2025**
- Dean's List AY22/23 S1
- **CS Coursework:** Algorithms & Data structures, Databases, Operating Systems, Networking and Software Engineering OOP
- **EE Coursework:** Digital Design, Circuits, Signal & Systems, Robotics

WORK EXPERIENCE

Software Engineering Intern, TikTok   **May 24 – Aug 24**
- Developed a Golang-based micro-service synchronizing incident events statuses between incident management and global SLI observation platform, boosting the reliability of ByteDance Video Arch infrastructure
- Engineered webhook-driven workflows to detect alert acknowledgments and trigger automated recovery for critical service-level alerts across multiple platforms, ensuring immediate data consistency and a more reliable user experience.
- Built a Go backend API that streams rolling incident-count metrics to live dashboards, allowing engineering teams to spot incident spikes quickly.
- Streamlined and exposed new RESTful OpenAPI endpoints adopted by multiple external product teams, cutting their integration time into Video Arch Infra Services and boosting developer productivity
- Built a scheduled Go service polling alert data for 300+ services across three regions, automatically flagging and correcting misconfigurations, cutting manual error reviews.

Software Engineering Intern, Motional   **May 23 - Nov 23**
- Integrated eight major vehicle-component query services (UDS, HTTP, shell) into a unified C++ backend, slashing pre-deployment manual version-check time for technicians by 50-60% and delivering real-time software and firmware version information of the entire vehicle.
- Automated firmware updates by implementing over-the-air flashing support for the Aurix vehicle component within AV deployment stack from AWS cloud, eliminating the need for manual, time-consuming updates and significantly improving operational efficiency.
- Developed a custom logger in C++ offering custom log prefixes and severity to support multi-threaded UDS queries log in a much more readable way.
- Migrated AV Deployment Agent CI/CD Pipeline from Jenkins to GitLab with a 30% improvement in pipeline completion time.
- Implemented parallel software packages retrieval to AV deployment service cutting down initial stack deployment time by 50%.

Software Engineering Intern, Autove Pte. Ltd. (Startup)   **May 22 - Aug 22**
- Built an operator app with full order workflow and real-time robot hailing, and a user-facing eCommerce app integrated with the delivery service robot, enabling live order tracking and status updates using Flutter, Node.js, Telegram Bot, and Firebase.

SKILLS

- Languages: (Proficient) C++, C, HTML, CSS, (Familiar) Go, Typescript, Dart, Verilog, Python, Java, Bash, SQL
- Skills: GCP, AWS, MongoDB, Express, Node.js, React.JS, Networking, Linux, OS, Distributed Systems

PROJECTS

Personal Website: pohwp.dev (For more information about me & my projects)

Computer Engineering Capstone Project   Sep 24 – Nov 24
- Involved in a 5-man team AI-driven Multiplayer AR Game that was developed from scratch
- Architected and developed a fault-tolerant and low-latency networking backbone of the system that was able to transmit player movement packets between the hardware, AI model, and AR applications on 2 phones that were connected via MQTT.
- Prototyped and validated core network modules within the first two weeks, leveraging AI-driven code scaffolding to accelerate development.
- Our team achieved nearly perfect scores for all our milestone project assessments with optimal response time.

SuperCanvas - Chrome Extension   Mar 23 – May 23
- Developed a productivity Chrome extension leveraging Canvas API aimed at improving students' experience in Canvas LMS with more than 500 active users to date
- Enables students to keep track of assignment deadlines with automated completion tracking on the dashboard, color-coded deadlines countdown, and instant course files fuzzy search feature

Cloud Inventory Management System (Telegram App)   Feb 21 – Mar 23
- Built a cloud inventory management system with Python, Google Cloud, and Telegram API, automating stock validation and managing automated email digital deliveries via Postmark API. Streamlined my eCommerce business, handling over 3,000 orders to date with seamless restocking and fulfilment.

Mercy Relief Content Management Platform   Sep 22 – Feb 23
- Google's Developer Student Club (Software Engineer) - Development of a content management system website for Mercy Relief, a worldwide disaster relief NGO using Next.JS and CSS

Audio Visual System BASYS3 FPGA Digital Design   Sep 22 – Oct 22
- Recognized as one of the top projects of the semester.
- Designed and implemented a mouse-based drawing canvas on an OLED display using Verilog allowing for smooth real-time graphic interaction.
- Developed a multifunctional digital stopwatch with lap timing capabilities and a whistle-based start/stop feature, enhancing user experience and functionality.