

OBJECTIVE

Aspire to become an exceptional software engineer with expertise in distributed systems, large-scale architectures, and high-traffic systems. Passionate about deep research in theoretical computer science, operating systems, and programming languages. Driven to design and optimize systems capable of handling massive concurrency, ensuring scalability, reliability, and efficiency.

PROFESSIONAL EXPERIENCE

Be Group

Senior Software Engineer

Nov 2022 - Present

- **Merchant Wallet:** The Merchant Wallet system is a comprehensive financial solution designed for merchants. It tracks balances, processes transactions in real time, and provides an all-in-one platform for managing funds. This system is tailored to support restaurant owners in overseeing their balances and transactions while also catering to accountants with detailed financial records and reconciliation capabilities.
 - **System Design and Implementation:** Designed and implemented the Merchant Wallet system from scratch, ensuring a robust architecture to handle high transaction volumes and interactions.
 - **High Transaction and Interaction Handling:** Optimized the system to process hundreds of thousands of transactions and support millions of interactions daily, ensuring reliability and performance.
 - **Monitoring and Metrics:** Developed comprehensive metrics and dashboards to monitor system performance, enabling real-time alerts and quick issue resolution in case of system failures.
- **Contact Center System:** is a comprehensive solution that connects customers, drivers, restaurants with Be Group. It centralizes all interactions between these parties, providing a seamless communication channel for resolving issues and ensuring smooth operations. This system handles complex partner-related issues, offering timely support and feedback. The architecture was restructured and optimized to support millions of daily interactions, improving database performance, system scalability, and reliability under high loads.
 - Restructured and optimized the free call and chat support systems, focusing on improving database performance and system architecture to handle millions of interactions daily smoothly.
 - Revamped the customer relationship management (CRM) system by optimizing database design and query execution, ensuring scalability and efficient operation under high load.
 - Performed extensive database optimizations, including redesigning schemas, indexing strategies, and improving query performance, reducing latency and ensuring high availability for millions of daily interactions.
 - Implemented scalable solutions and load-balancing techniques to handle high-concurrency traffic, ensuring consistent performance and minimal downtime even during peak loads.

VNG Corporation

Senior Software Engineer

May 2019 - Sep 2022

- **vCloudcam:** vCloudcam is a Software-as-a-Service system designed for centralized camera management, enabling live view, playback, AI processing, and event alarms.
 - Designed and implemented solutions for managing distributed camera devices in a centralized system, ensuring seamless communication and scalability.
 - Built robust storage mechanisms to handle and store large-scale video data efficiently in a centralized architecture.
 - Developed systems to collect and monitor a high volume of metrics from distributed devices, ensuring real-time visibility and diagnostics.
 - Contributed to event analysis and alerting systems, enabling timely identification and resolution of critical events.
 - Debugged and resolved complex issues related to Linux operating systems on distributed devices, focusing on performance, connectivity, and reliability.
 - Improved system stability by identifying and addressing kernel-level issues and optimizing resource utilization on embedded Linux systems.

- Designed and developed a cross-platform video player for both desktop and browser environments, leveraging Qt for native applications and WebAssembly for browser-based playback.
- Optimized video playback performance, ensuring smooth streaming and compatibility across various devices and operating systems.
- **IoT Hub:** IoT Hub is an IoT management platform that enables the creation, management, and monitoring of IoT devices. Designed to serve as a central hub for communication and interaction among IoT devices, the platform handles millions of device interactions daily.
 - Conducted extensive research on time-series databases (e.g., InfluxDB, TimescaleDB) for managing and storing real-time IoT telemetry data.
 - Designed and implemented efficient data processing pipelines and communication mechanisms for IoT devices, ensuring low latency and high availability.
 - Optimized the system architecture to handle high-load scenarios, achieving stability and reliability under peak traffic conditions.
 - Focused on scalability to support rapid growth in IoT devices and data streams.

Software Engineer

Nov 2017 - Apr 2019

- **IoT Lab:** Conducted research and development on IoT platforms and devices, including Raspberry Pi and Arduino, focusing on IoT protocols and smart home systems. Designed and optimized high-load systems for real-time data streaming, ensuring stability and performance under peak traffic. Applied advanced techniques to handle millions of device interactions daily in VNG Campus IoT infrastructure.

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Software Engineer - Freelancer

Sep 2020 - Sep 2021

- **Portal Management:** Developed and maintained a service for managing user roles, permissions, accountants, companies, and contracts within the portal.
- **Notifications:** Worked on a notification service that included email, push, and in-app notifications, including user activity tracking and contract reminders.

EDUCATION

- **University of Science, VNUHCM** Ho Chi Minh City, Vietnam
Bachelor of Computer Science; GPA: 8.0/10.0 *Aug. 2014 - Dec. 2018*

PROJECTS

- **Telegraf Plugin:** Developed an open-source plugin in Go for collecting and processing metrics from MongoDB.
- **VerneMQ Plugin:** Contributed to an open-source Erlang plugin for VerneMQ, enabling data bridging between VerneMQ and Kafka.

PROGRAMMING SKILLS

- **Languages:** Go, Rust, Java, Javascript, C/C++, Python
- **Technologies:** Docker, Kubernetes, GCP, Kafka, MQTT, AMQP, Apache Spark, Apache Flink, WebRTC, Websocket,...