

# CHIH CHI CHUNG

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## SUMMARY

Adaptive full-stack developer & DevOps engineer contributing to scalable application development and deployment automation. Experienced in modernizing legacy systems, building observability pipelines, and supporting cross-functional engineering workflows. Passionate about improving system reliability and developer experience, and always eager to learn and grow through practical challenges.

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## EDUCATION

**M.S., Computer Science and Engineering** 2019-2023  
National Yang Ming Chiao Tung University (Hsinchu, Taiwan)

**B.S., Computer Science** 2015-2023  
National Chiao Tung University (Hsinchu, Taiwan)

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## TSMC IT — DEVOPS ENGINEER & FULL-STACK DEVELOPER, APR 2023 – PRESENT | HSINCHU, TAIWAN

### Observability & Monitoring

- Set up Prometheus pipelines to monitor VM and container environments.
- Installed and configured Node Exporter and mtail using playbook for system and log-based metrics collection.
- Created custom scrape configurations with proper labels to support service-specific metrics.
- Designed and tuned Alertmanager rules to improve system reliability and early incident detection.

### Application Development & System Integration

- Developed internal tools using React and Spring Boot to support fab operations.
- Integrated internal workflow platforms with existing equipment control services to enable automation.
- Maintained CI/CD pipelines via Azure DevOps; provisioned infrastructure using Ansible Playbooks.

### System Modernization & Cloud Migration

- Participated in modernizing a legacy system previously deployed on bare-metal servers.
- Containerized core services and migrated them to internal Kubernetes clusters following company DevOps standards.
- Collaborated across teams to integrate NATS messaging, enabling the system to process equipment data once available.

### Data Shift Detection Application

- Built a full-stack application (React + Node.js) for fab engineers to retrieve and analyze equipment sensor data.
- Integrated machine learning kernels to perform anomaly detection and diagnostics, with a feedback mechanism to improve prediction accuracy.
- Added retry logic and verbose logging to increase fault tolerance and reduce debugging time.
- Regularly collaborated with fab users, project managers, and kernel team members to define system interfaces, clarify user needs, and refine backend integration.

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## ACADEMIC PROJECTS

**CAMPUS Platform** 2019 – 2023  
Project Lead & Backend Developer

- Led backend development for a campus crowdsourcing app built with Node.js and Apollo GraphQL.
- Deployed using GCP Cloud Run; integrated Firebase for authentication and data storage.
- Used Docker and GitHub Actions to standardize development environments and streamline deployments.

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## SKILLS

**Programming, Development:** Python, JavaScript, Java, Spring Boot, React, Apollo GraphQL

**DevOps, Infrastructure:** Kubernetes, Docker, Azure DevOps, Ansible, GitHub Actions, GCP Cloud Run

**Observability, Monitoring:** Prometheus, Alertmanager, Node Exporter, mtail, ELK Stack

**API, Pub/Sub Messaging:** NATS, REST API design, Firebase, Workflow system integration