Zac Tam Zher Min

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Experiences

SAP – Software Engineer (Backend & ML Platform)   **May 2023 – Present**

SAP AICore – a machine learning-focused Kubernetes-based platform team, foundational to all of SAP's AI & GenAI workloads

• Built a scalable distributed multi-tenant management system, processing 1,000 concurrent tenant onboarding operations at ~3 tenants/second across 30 Kubernetes pods

• Implemented an asynchronous Saga orchestrator architecture with idempotent Sagas and steps, ensuring data consistency and reliable failure handling, backed by custom optimistic locking and database triggers to combat SAP HANA's limitations

• Developed and maintained highly available REST APIs handling ~300 RPS across 20 pods using Flask and Flask-RESTX, imposing strong request validation, automated Swagger documentation, and version-controlled migrations via Alembic

• Mitigated database dependency during downtime and high load, preventing downstream service failures and reducing expensive database lookups by implementing in-memory Redis caching for tenant metadata and lifecycle status

• Secured the system through JWT-based authentication with OPA policy authorization and Istio mTLS, enforcing zero-trust, service-to-service access control across internal APIs and supporting sovereign cloud compliance requirements

• Slashed build-to-production time from ~6h to ~1h by migrating CI pipelines from Jenkins to GitHub Actions and crafting internal workflows, integrating security and compliance scans; eventually releasing to 20+ multi-cloud landscapes thru GitOps

Shopee – Algorithm Engineer Intern   **Aug 2022 – Dec 2022 [GitHub]**

Under the Identity Verification team for the largest e-commerce platform in SEA to offer CV/ML solutions to Shopee systems globally

• Significantly trimmed down 99.8% of SDK size by replacing the heavy OpenCV dependency with custom C++ algorithms

• Employed geometric constraints on top of Canny edge detectors and Hough Line Transform algorithm to detect identity cards

• Obtained a low average MSE below 10 pixels in a 462x291 guided window by implementing a moving average frame queue

SSMC – Machine Learning Engineer Intern   **Aug 2021 – Dec 2021 [GitHub]**

Semiconductor manufacturing joint venture between TSMC and NXP looking to optimize their wafer QA system and data servers

• Achieved 99.1% test accuracy and 80% precision to classify wafer defects by leveraging pretrained ResNets and MobileNets

• Architected a local "Automatic Wafer Defect Classification System" wrapping .h5 models in a portable Windows executable

• Enabled upwards of >90% storage reductions, translating to tens of thousands in cost savings and incentivized digitalization

Skills

Python, Golang · REST APIs · Distributed Systems · Concurrency · Kubernetes · Helm · Docker · Redis · Istio · OPA
SQL (PostgreSQL, MySQL, HANA) · AWS · GitHub Actions · GitOps

Education

National University of Singapore   **Aug 2019 – May 2023**

Highest Distinction in Bachelor of Engineering in Electrical Engineering; Minor in Data Engineering   GPA: 4.57/5.00

• 2x Dean's List – Top 5% of Cohort

Certifications

CKAD – Certified Kubernetes Application Developer

CKA – Certified Kubernetes Administrator