

Max Ong Zong Bao

AI/ML Solution Architect | LLM & RAG Systems | PyCon Malaysia Keynote Speaker

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Skills

- AI/ML & Data 10
 - LLM, SLM, RAG, DSPy, LlamaIndex, Stable Diffusion, Whisper, AI Eval, Ray, YOLO, AWS Bedrock, Google Vertex AI, TensorFlow, TFX, TFDV, MLOps, Pandas, NumPy, PySpark
- Cloud Infrastructure 8
 - AWS, Google Cloud, Docker, Kubernetes, GitHub Actions, Palantir Foundry (Skywise)
- Backend & APIs 7
 - Python, FastAPI, Django, Flask, RESTful API, PostgreSQL, MySQL, Redis, Celery
- Frontend 6
 - React, TailwindCSS, Vite, TypeScript/Javascript, React Native
- Others 8
 - Git, Postman, OpenAPI v3, Figma, Linux/Bash
- Mentorship 10
 - Served as a advisor for Georgia Tech Singapore chapter's mentoring programme.
 - Served as a tech & career mentor to mentor junior developers and university students through the Junior Developer Singapore chapter & Singapore Institute of Technology (SIT) Alumni mentorship program.
- Tech Community Management 10
 - Manage and execute programmes for local tech communities namely

Summary

Solution Architect with 10+ years across AI/ML, full-stack engineering, and startup leadership. Specialise in translating complex business problems into production-ready AI architectures including LLM/RAG systems, digital twins, and MLOps pipelines. Previously built AI POCs at Airbus on Palantir Foundry/Skywise, served as CTO at Codesurance, and founded Upskillcycle (SG Startup Founder Grant recipient). Keynote speaker at PyCon Malaysia 2023. Pursuing Georgia Tech OMSCS (AI specialisation). Seeking Solution Architect or AI/ML Engineering roles where architectural decisions can create real business impact.

Work Experience

- Asus 2024-12 - 2026-03
 - Software Design Team Lead
 - Provided technical advisory on system architecture, API contracts, and integration patterns for a consumer innovation project, translating requirements from a cross-functional team (UX, industrial design, engineering) into a technical implementation roadmap.
 - Evaluated AI/ML frameworks and technologies across 4 innovation projects, producing decision matrices and technical comparison documentation that informed architecture selection and investment planning.
 - Conducted technical feasibility assessments with project managers and business stakeholders across Singapore and Taiwan, surfacing implementation risks and preventing scope creep before development began.
 - Contributed frontend architecture (React, TailwindCSS, Vite) to 3 AI innovation projects subsequently adopted by Asus business units
- Airbus 2023-12 - 2024-06
 - Digital Solution Engineer
 - Supported development of RAG-based LLM proof-of-concepts on Palantir Foundry (Skywise) to surface operational insights for Airbus APAC business units, reducing manual data discovery effort.
 - Conducted data lineage analysis and data wrangling across Skywise datasets to establish foundations for POC and digital twin development.
 - Evaluated open-source LLM frameworks (LlamaIndex, DSPy) and recommended architecture patterns for production readiness, informing investment decisions across the innovation portfolio
 - Collaborated with cross-functional stakeholders across APAC to define problem statements and translate business requirements into technical POC scopes
- Upskillcycle Pte Ltd 2021 - 2024
 - Founder
 - Founded an inclusive tech education platform targeting career switchers and persons with disabilities
 - Secured Singapore government funding via Enterprise Singapore's SG Startup Founder Grant.

JuniorDev Singapore, DevSG and Python User Group Singapore (PUGS) with a combined membership of more than 10k+ members.

Technical Writer, Adult Educator & International Speaker 10

- He is a prolific writer with a following of 40,000+ tech professionals through his technical blog & tech community.
- He conducts technical training for career conversion programmes and vocation educational institutions.
- He was invited as a **Keynote** speaker for **Python Conference (PyCon) Malaysia 2023**.

Interest

- Cooking
- Kettlebell
- Hiking
- Bushcrafting
- Brazilian jiu-jitsu (BJJ)
- Dungeons & Dragons (DnD)
- Scuba Diving

- Architected and built the full platform using Django, Bootstrap, Websockets, Celery, Redis, and Django Channels, scaling to 5,000+ users through Mentoring.SG.
- Placed Top 28 semi-finalist at Entrepreneur World Cup Singapore 2021 and 3rd place at Alibaba Cloud SUSS Demo Day 2021.
- Drove end-to-end product, technical, and community strategy as sole technical founder from MVP to grant-funded growth

Codesurance Pte Ltd 2019 - 2023

Chief Technology Officer (CTO)

- Architected and delivered full-stack solutions across 6+ client engagements spanning event management, marketing automation, HR tech, and mobile applications for startups and enterprises
- Built an Account-Based Marketing automation pipeline using Selenium, Scrapy, AWS EC2, Pandas, and Flask, reducing manual prospecting effort for clients
- Delivered a check-in and alcohol redemption system handling 10,000+ event participants, integrated with Twilio, Mailgun, and AWS for real-time operations
- Built the Avatar & Float Selection System for Chingay 2020 using GatsbyJS and Gatsby Cloud, serving a national-scale public-facing event
- Provided technical consulting for an HR AI startup, advising on Android and iOS architecture using Kotlin, Swift, and Figma-driven UI/UX design

Mircrosec Pte Ltd 2017 - 2019

Full Stack Developer

- Developed the IoT management dashboard to visualise data or manage IoT devices using AngularJS, Bootstrap, CSS3, Flexbox, Django, Flask.
- Building public, internal & external RESTful APIs for clients, developers or IoT devices with Django, Flask, Docker, Postman, Pandas, Numpy, Nginx, Gitlab
- Front-end & Backend integration of our products or services
- Kickstart and build MicroSec's Design System with Figma

Education

Georgia Institute of Technology 2024 - 2029

Master of Science, Computer Science

Specialisation in AI

University of Glasgow 2014 - 2016

Bachelor of Science, Computing Science

- Computing Science is the study of information, computation and computational thinking.
- It is wide-ranging, from programming, programming languages and engineering large software systems, to the design and evaluation of human/computer interfaces, algorithms, computer and network systems, as well as information retrieval and storage systems.

Interest Groups & Non-Profit Organisations

President, Python User Group Singapore (2022–Present) | Owner, DevSG (2021–Present) | Organising Member, Junior Developer Singapore (2018–Present) — 10,000+ combined members