Lau Tze Hao, Dominic

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EDUCATION

Singapore Management University **Aug 2023 – Jun 2027**
BSc (Information Systems); Dual Track in Business Analytics and Product Development *(expected)*

- **Cumulative GPA**: 3.60/4.0 (Magna Cum Laude)

WORK EXPERIENCE

AI Developer Intern **May 2026 – Present**
Accenture *Singapore*

- Implemented AWS Lambda invocation logic across an ECS/Lambda appeal-processing system for a mission-critical GenAI application built to government-grade reliability and audit standards, supporting 80,000+ annual invocations.
- Executed unit and system integration tests across the appeal-processing system, directly interacting with PostgreSQL tables on the RDS instance to validate data integrity and end-to-end traceability via CloudWatch logs.
- Prompt engineered multi-stage, chained Bedrock LLM (Claude Sonnet 4.6) calls, using Python test scripts to validate prompt behavior and ECS logic flow, operating within a Windows EC2 instance accessed via AWS Fleet Manager.
- Co-designed production-grade PostgreSQL schemas for the business and GenAI components of the appeal-processing system, translating the logical data model into SQL structures with traceability, audit logging, and versioning support.
- Supported development of a keyword-driven command-pattern Lambda router, carrying out unit testing via Lambda test events without requiring redeployment, cutting test-cycle turnaround by an estimated 80%.
- Presented architectural decisions, test outcomes, and LLM logic flows to non-technical clients, translating technical decisions into business language to support system integration between the AWS-hosted appeal-processing system and the client's on-premise system.

AI Development & Enterprise Software Intern **May 2025 – Jan 2026**
Razer (Asia-Pacific) Pte. Ltd *Singapore*

- Engineered RAG-based proof-of-concept using Ollama to enable natural language querying of product failure datasets.
- Developed a conversational AI agent in Microsoft Copilot Studio, integrating Dataverse and MCP server connectors to surface failure trends across 40,000+ product-failure records for the Product Support team.
- Built a PHP/Docker inventory management web app managing 400+ products across 8 categories for 25+ staff, replacing manual Excel tracking with a digitized workflow.
- Automated JIRA ticket validation with regex-based logic across 30-50 daily tickets, cutting escalation-processing time by 15+ minutes per ticket via automated content checks.

SKILLS & CERTIFICATIONS

- **Cloud Architecture:** AWS (Bedrock, Lambda, ECS, S3, RDS, DynamoDB, EC2, CloudShell), Terraform (Infrastructure as Code), multi-AZ high-availability architecture
- **Security:** IAM, CloudWatch logging, GuardDuty threat detection, Cognito authentication, LLM guardrails, zero-trust design
- **Networking:** VPC subnetting & CIDR-based segmentation, Security Groups & NACLs (defense-in-depth design), Application Load Balancer (ALB), CloudFront (CDN), WAF perimeter design
- **DevOps:** Git, Docker, CI/CD pipelines
- **Programming Languages:** Python, Java, SQL, JavaScript, PHP
- **Testing & Dev Tools:** Postman, Insomnia, DBeaver, JIRA, Figma
- **Libraries & Frameworks:** PostgreSQL, SQLAlchemy, FastAPI, Pandas, NumPy, Streamlit, Spring Boot, React.js
- **Methodologies:** Cloud Software Architecture, Object-Oriented Programming, Test-Driven Development, REST API Design, Agile/Scrum
- **Certifications:** AWS Certified Cloud Practitioner (2026)

PROJECTS

MitraVault | Terraform, AWS (ECS, Lambda, Aurora, Cognito, CloudFront), Java, Python **Jan 2026 – Apr 2026**
Cloud-Native Banking CRM *github.com/dominiclau2002/Mitravault*

- Authored a twelve-module Terraform infrastructure on AWS provisioning a zero-trust microservices architecture (ECS Fargate, Lambda, Aurora PostgreSQL active-passive across two AZs) behind a CloudFront, WAF, and ALB perimeter, selected as a Top 3 finalist for the UBS SMU-X IT Solution Architecture Award.
- Built a transaction ingestion and fraud detection pipeline (EventBridge, SFTP, DynamoDB) combining rule-based anomaly detection (Z-score, velocity, geo-shift signals) with a single-shot Bedrock call to Claude Haiku 4.5 for human-readable fraud explanations.
- Designed multi-AZ VPC network topology with CIDR-based public/private subnet segmentation and layered Security Group and NACL rules for defense-in-depth access control across the microservices architecture.

SOTA Virtual Assistant | OutSystems ODC, Pinecone, Qwen 3.6 Plus, Gemini 2.5 Flash **Apr 2026 – Jun 2026**
Human-Governed RAG Knowledge Pipeline, OutSystems SAIL Hackathon

- Built a retrieval-augmented Qwen RAG agent on OutSystems ODC, configuring a retrieve-then-rerank pipeline against Pinecone (TopK 10, reranked to TopN 6 with bge-reranker-v2-m3) to ground role-scoped conversational answers for students, teachers, and parents, selected for production integration at the School of the Arts in Singapore.

LEADERSHIP

Singapore Management University SMUX Kayaking Team **Jan 2024 – Dec 2024**
Vice-President

- Spearheaded a 7-member executive team, coordinating 5 departments for event planning and execution.
- Initiated 3 new events, securing approval from school leadership, leading to a 144% increase in membership.

EXTERNAL ACTIVITIES

Institute of Mental Health – IMHope Group **May 2025 – May 2026**
Volunteer

- Supported weekly engagement activities at the Institute of Mental Health (IMH), contributing to patient interaction, programme facilitation, and community well-being initiatives.

Ellipsis Code# 2025 **March 2025**
Participant

- Participated in a coding competition hosted by SMU Ellipsis, the student body of the School of Computing and Information Systems, solving coding challenges of varying difficulties in Python over 3 days.

DSTA BrainHack 2024 **June 2024**
Participant

- Participated in a national-level innovation challenge focused on using technology to address sustainability problems.
- Designed a Figma wireframe prototype that allowed users to scan grocery barcodes to view carbon footprint information, applying user-centric design principles and rapid prototyping.