PYAE SONE

M: +65 85991580 | E: pyaesone.perfect2014@gmail.com | LI: linkedin.com/in/pyaesonep | Portfolio: github.com/pyaesonep

PROFESSIONAL SUMMARY

Physician-turned-AI-engineer: MBBS with 5 years of clinical training, now building trustworthy AI for healthcare. I pair hands-on ML/LLM engineering (neural networks from scratch in NumPy; a local-first, RAG-based clinical triage agent with adversarial safety guardrails) with a government red-teaming background I now apply to LLM security. Strengths in medical AI, model safety, and rigorous evaluation. Targeting AI Engineer internships on health and trustworthy-AI teams.

EDUCATION

Singapore University of Technology and Design (SUTD) — **Singapore**
BEng in Computer Science & Design | Trailblazers Scholar — **Sep 26 - Apr 30**

Singapore Polytechnic — **Singapore**
Diploma in Computer Engineering | Diploma with Merit | CGPA 3.94/4.00 — **Apr 23 - Mar 26**

University of Medicine 1 — **Yangon**
MBBS (Medicine), Yangon — **Jan 15 - Dec 21**

- 5 years of clinical training including hospital rotations and rural public health; transitioned to technology driven by passion for AI

WORK EXPERIENCE

Land Transport Authority (LTA) Singapore — **Mar 25 - Aug 25**
Cybersecurity and Red Teaming Intern — **Singapore**

- Increased CIS Windows 11 Enterprise endpoint compliance from 44% to 89% (+45 pts) by engineering an automated PowerShell hardening package applying 500+ controls via HardeningKitty, securing developer endpoints against supply chain attack vectors.
- Architected production cloud pipeline with Azure Logic Apps, ARM Templates and Key Vault, ingesting CrowdStrike Falcon alerts into Microsoft Sentinel to deliver centralized threat-hunting for the Enterprise Architecture department.
- Designed and executed purple team adversary simulations deploying Mimikatz credential-dumping payloads in a virtualized environment to empirically validate CrowdStrike Falcon's behavioral detection engine over legacy AV.

AI & ML PROJECTS

Aegis-MD: Local-First LLM Triage Engine (RAG + Vision) — **Feb 26 - Jun 26**
Python | FastAPI | Ollama (MedGemma 4B) | RAG / ChromaDB | Docker | GCP

- Built a local-first, multimodal ED triage agent: a quantized MedGemma 4B LLM served via Ollama with RAG over clinical guidelines (ChromaDB), classifying acuity on the 5-level Australasian Triage Scale through a rules-first safety architecture (deterministic floor + LLM escalation); hardened with an LLM prompt-injection gateway, Prometheus observability, 332 backend tests at 94% coverage, and CI/CD, all inference on-device and deployed on Cloud Run.

Statistical Modeling of Cardiovascular Disease Risk — **Oct 25 - Feb 26**
Python | Pandas | SciPy | Matplotlib

- End-to-end analysis of 70,000 patient records validating BMI as CVD predictor; engineered 10,000 iteration Bootstrap CIs and Permutation Tests ($p<0.0001$); built regression models with train/ test validation, applying Asian-specific WHO BMI thresholds drawn from clinical training.

Real-Time ASL Image Classification System — **Oct 25 - Feb 26**
PyTorch | EfficientNet-B0 | OpenCV | Transfer Learning

- Engineered a real-time ASL recognition pipeline (OpenCV/MediaPipe) extracting hand-gesture ROIs from webcam feeds at sub-100ms latency; benchmarked custom CNNs against a transfer-learned baseline (99.8% test accuracy).

Convolutional Neural Network from Scratch (NumPy & Cloud Run) — **Dec 25 - Jan 26**
Python | NumPy | FastAPI | Docker | GCP

- Implemented 4 convolutional layers and 3 fully connected layers with ~1.07M parameters from scratch in pure Python/NumPy with manual backpropagation and He initialization; deployed full-stack via FastAPI + Docker on Google Cloud Run with a monitoring dashboard tracking inference latency (<50ms avg) and data drift.

TECHNICAL SKILLS

AI / ML
PyTorch, TensorFlow, Keras, Scikit-Learn, NumPy, Pandas, HuggingFace, LLMs, RAG, Prompt Engineering, LLM Security, Computer Vision (OpenCV), Transfer Learning, CNNs, Statistical Modeling
Languages
Python (Advanced), JavaScript, C/ C++, PowerShell, SQL
MLOps & Cloud
Docker, Kubernetes (k3s), Google Cloud Run, Vertex AI, GCP, FastAPI, Ollama, ChromaDB, MLOps, CI/ CD
Tools & Platforms
Google Cloud Platform, Azure, CrowdStrike Falcon, Microsoft Sentinel, Git/ GitHub

CERTIFICATIONS

Machine Learning Specialization (Stanford / DeepLearning.AI) | Deep Learning Specialization (DeepLearning.AI) | MLOps: Getting Started (Google Cloud) | Create Generative AI Apps on Google Cloud (Google Cloud) | Build Your Own Small Language Model (Google DeepMind) | Docker & Kubernetes Fundamentals (Dell)