Tan Yi Xin

Address: No 4, Jalan Mutiara14,

Taman Mutiara 2, 82000, Pontian, Johor

: yixin1604@gmail.com

: 017-750 4386 github.com/yixin16

🎓 Education Background

Bachelor of Computer Science (Honours) | Universiti Tunku Abdul Rahman (UTAR): 2022-2025 | CGPA: 3.63/4.00

- Major: Artificial Intelligence, Deep Learning, Computer Vision

Foundation in Science (Technological Science) – CGPA: 3.66/4/0 (Universiti Tunku Abdul Rahman: 2021-2022)

Malaysian Certificate of Education (SPM) – 8As

💼 Technical Skills

- **Programming Languages**: Python, Java, C++, JavaScript, PHP, R, C
- **AI/ Deep Learning**: PyTorch, TensorFlow, Hugging Face Transformers, YOLO, CLIP, Generative AI (Phi-2 LLM, Whisper, BERT, LangChain), Image processing (OpenCV, Mediapipe), Vector embeddings, semantic similarity, multimodal models
- **Data Science & Analytics:** Pandas, NumPy, Scikit-learn, Matplotlib, Feature Engineering, EDA
- **Security Tools & Concepts:** Kali Linux, Wireshark, Nmap, Network Protocols, Secure System Design
- **Web Development:** Flask, Odoo ERP, RESTful APIs, HTML5, CSS3, JSON, AJAX.
- **Databases**: MySQL, MongoDB (NoSQL), ER Modeling
- **Tools & Version Control:** Git, GitHub, Jira, Bitbucket, VS Code, Jupyter, Linux (Ubuntu/Kali)
- **Cybersecurity:** Kali Linux, Wireshark, Nmap, Reconnaissance, Penetration testing
- **Concepts:** OOP, DSA, Agile Scrum, Secure System Design, Real-Time Computer Vision

💻 Project Experience

1. **Real-Time Deep Learning-Based Face Detection and Recognition with Integrated Liveness Detection for Attendance System (FYP) | (2025) |** *Python, TensorFlow, Flask, OpenCV, Dlib, Mediapipe, SolvePnP*
   - Built a complete real-time face recognition attendance system integrating blink, smile, and head pose liveness detection to mitigate spoofing.
   - Implemented end-to-end pipeline for image processing, face detection, and attendance automation.
   - Optimized model performance for low-latency real-time deployment.
2. **Staff Uniform SOP Compliance Analysis | (2025) |** *Python, YOLOv11n, Swin-T, CLIP, OpenCV, Pandas*
   - Automated the monitoring of staff attire compliance in a corporate environment.
   - Architected a hybrid deep learning pipeline combining **YOLOv11** for person detection and **Swin-T + CLIP** for zero-shot classification of clothing attributes (vests/polos). Employed few-shot learning techniques to improve model generalization on limited datasets.
   - Combined multi-model predictions to classify staff into compliant (polo/vest) or non-compliant categories.
3. **Auto-Researcher AI: Autonomous Content Transformation Pipeline | (2025) |** *Gen AI, Phi-2 LLM, Whisper, LangChain*
   - Created an autonomous agent to transform unstructured video content into structured educational materials.
   - Developed a **multi-agent architecture** using the Microsoft Phi-2 LLM and OpenAI Whisper. The pipeline autonomously extracts audio from YouTube, transcribes it, extracts key insights, and generates summary slides and Q&A pairs.
   - Streamlined the research process, reducing content summarization time by 90% while maintaining high contextual accuracy.
4. **Career Compass AI: Intelligent Resume & Market Gap Analyzer | (2026) |** *Python, GenAI (Llama3 + Groq), NLP (BERT), Sentence-Transformers, Web Scraping (BS4/DuckDuckGo), Streamlit, Pandas*
   - Architected a semantic analysis engine using BERT-based sentence embeddings to calculate vector similarity between resume profiles and live job descriptions, quantifying candidate-market fit.
   - Developed a resilient scraping pipeline leveraging search dorking and rotating headers to aggregate live opportunities from LinkedIn, JobStreet, and Indeed, bypassing basic anti-bot measures.

- Engineered a GenAI-powered interactive dashboard (Streamlit) that parses unstructured JSON outputs from Llama 3 to generate tailored cover letters, skill gap analysis, and personalized learning roadmaps.

👨‍💼 Working Experience

Vision AI Developer | *BlueTrack Analytics (Invoke)*
2025 – Present

- Developing advanced computer vision pipelines for large-scale CCTV surveillance analytics.
- Designing and fine-tuning custom AI models for real-time anomaly detection and behavioural analysis in high-traffic environments.
- Collaborating with cross-functional teams to deploy models into production using Docker and Cloud infrastructure.

Software Engineering Intern | *Axcell Solutions*
Oct 2024 – Jan 2025

- Contributed to backend development for a **Loan Management System** in **Odoo ERP**.
- Designed modular backend components that improved scalability and reduced system technical debt.
- Participated in system debugging, documentation, and workflow automation.