


## Tan Yi Xin

Address: No 4, Jalan Mutiara14,  
Taman Mutiara 2, 82000, Pontian, Johor

 : [yixin1604@gmail.com](mailto:yixin1604@gmail.com)

 : 017-750 4386

 [github.com/yixin16](https://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. **CareerCompass AI: Intelligent Resume & Market Gap Analyzer | (2026)** | *Python, NLP (BERT), Sentence-Transformers, Web Scraping (B34/DcukDuckGo), Pandas* 
  - Architected an intelligent career strategy platform that moves beyond simple keyword matching by implementing BERT-based Sentence Transformers to analyze the semantic meaning of resume skills against job descriptions.
  - Developed a search-engine-resilient scraping pipeline using Dorking techniques to gather fresh job market data.

## 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.