IVYN YAK

ivyn.yak.2022@scis.smu.edu.sg | +65 9643 0817 | linkedin.com/in/ivynyak | github.com/ivyn-yak
Available for Summer 2025 Internship

EDUCATION

Singapore Management University   **Aug 2022 – May 2026**
Bachelor of Science (Information Systems)   **(expected)**
- Dual Track in Business Analytics and Digitalisation & Cloud Solutions, Second Major in AI
- Relevant Courses: Computational Thinking (A+), Analytics Foundation (A-), Machine Learning & Applications (A-), Data Management (A-), Web App Development (A-), Object Oriented Programming in Java, Introduction to AI

Hwa Chong Institution (College)   **Jan 2020 – Dec 2021**

TECHNICAL SKILLS

- *Frontend*: JavaScript, React, VueJS, TailwindCSS, Material UI, Bootstrap, Figma
- *Backend*: Python, Java, Flask, NodeJS, ExpressJS, Firebase
- *Databases*: MongoDB, MySQL, AWS S3, Firestore
- *Analytics/ML*: scikit-learn, pandas, NumPy, TensorFlow, Keras, Tableau, AWS SageMaker
- *DevOps*: Git, Jira, Azure, AWS, Docker, Kubernetes
- *Concepts*: Microservices, API, Containerisation, OOP, Data Structures & Algorithms, Computer Vision, Agile

WORK EXPERIENCE

Singapore University of Social Sciences (SUSS)   **Aug 2024 – Dec 2024**
Software Engineer, AI & Automation | Python, FastAPI, LLMs, OpenAI
- Implemented a web scraper that extracts content from Chinese textbooks and compiles it into a PDF document.
- Developed the web scraper user interface using Gradio and the backend server using FastAPI.
- Automated an end-to-end solution for SUSS Library that retrieves necessary metadata from open source textbooks using OpenAI.

Singapore Examinations and Assessment Board (SEAB)   **Jun 2024 – Aug 2024**
AI & Machine Learning, Data Science Intern | Python, AWS
- Experimented with data pre-processing methods for object detection and text recognition tasks.
- Trained object detection models (YOLO, TensorFlow, MXNet) to identify cancellation and insertion in handwritten text using Amazon SageMaker, achieving a mAP50 of 86%.
- Tuned hyperparameters for TensorFlow model, improving mAP50 by 5%.
- Deployed endpoints on AWS for inference, using AWS Python SDK to pass input data stored in AWS S3.

PROJECTS

MealMatch – Morgan Stanley Code to Give Hackathon | *React, Material UI, Firebase*   **Aug 2024**
- Implemented the Hungarian algorithm to match food donors and beneficiaries, retrieving details from Firebase.
- Implemented authentication and CRUD operations using Firebase.
- Developed the tracking page to show the status of the food transport process, using React and Material UI (MUI).

Fire Semantic Segmentation – SCDF Hackathon | *TensorFlow, Kubernetes*   **May 2024 - Jun 2024**
- Trained a CNN model with U-Net architecture, using TensorFlow and Keras, to outline a fire in images.
- Developed a frontend to upload images, using React and Vite.
- Deployed model and frontend using Docker, Harbour, Kubernetes and Red Hat Open Shift.

Ecommerce Website – Full Stack Personal Project | *MERN, Vite, TailwindCSS*   **Apr 2024**
- Created a fully responsive website using ReactJS and TailwindCSS.
- Implemented backend using MongoDB, Express and NodeJS, storing products, reviews and cart details.
- Implemented authentication using JWT.

BookLah – Backend Coursework (A) | *Python Flask, MySQL, Docker, Stripe*   **Jan 2024 – Apr 2024**
- Developed and tested RESTful APIs for 2 microservices, orchestrating communication between 5 other microservices via HTTP and message-based protocols using RabbitMQ.
- Stored payment details using MySQL with the integration of Stripe API and webhook.
- Containerised and deployed microservices through an API gateway, using Docker, Docker Compose and Kong.

ACHIEVEMENTS, LEADERSHIP & INTERESTS

- **Finalist (Top 6)** - Accenture's University Innovation Challenge 2024
- **Winning Group** - Morgan Stanley's Women4Tech Challenge (Singapore) 2024
- **Finalist (Top 5)** – SCDF X Dell Lifesavers' Innovation Challenge 2024
- **Leadership:** Vice President, SMU Product Management Club (2023-2024)
- **Interests:** Coffee, Travel, Minesweeper, YouTube, Netflix