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Li Yuxiao

Education

Nanyang Technological University Singapore
School of Physical and Mathematical Sciences 2023 - 2027*(expected)*
- Bachelor of Science in Mathematical and Computer Sciences (Double Major)

Experience

KLASS Engineering and Solutions | Singapore Jan 2026 - Present
- Refactor a backend system by transitioning existing code to a FastAPI framework to improve performance and maintainability.
- End-to-End Chatbot Development: Support full-stack feature development, debugging, and maintenance for the chatbot application. *(upcoming)*
- Release Management & QA: Assist with application shipping processes, including unit testing and deployment pipelines. *(upcoming)*

URECA: VR Analysis and Feedback System | Singapore Aug 2025 - Present
- Analyze multimodal data (e.g., eye-tracking, physiological signals) from VR simulations to evaluate user performance and provide feedback

SRIT Information | Ningbo, China July 2025 - Aug 2025
- Engineered a Model Context Protocol (MCP) server backend for cancer diagnosis support system
- Incorporated a Retrieval-Augmented Generation (RAG) model to query local diagnosis documentation, improving answer relevance by 10%

URECA: Fake News Identification | Singapore Aug 2024 - June 2025
- Engineered a novel three-stream fake news detection model in Python using PyTorch, integrating BERT-BiLSTM, CNN-MHSA, and an interpretable KAN, achieving 98.4% accuracy on benchmark datasets
- Under the supervision of Professor Kang Hao Cheong and in collaboration with Dr. Hu Shiyu, presenting progress in bi-weekly meetings
- Authored a research paper detailing the model architecture and experimental findings

Stanford Pre-Collegiate Summer Institutes | CA, US (Remote) July 2022 - Aug 2022
- Analyzed public COVID-19 datasets using R (dplyr, ggplot2) to identify transmission trends, contributing to a personal project that earned an A+ performance rating

Utech Deep Learning Camp | Shanghai, China Jan 2021, July 2021
- Applied computer vision techniques using Python and OpenCV to implement an object identification program, obtaining 92% accuracy.

Awards and Honors

- **Meritorious Award**, High School Mathematical Contest in Modeling 2023.11
- **Third Place**, AI Olympics Challenge, Yangtze Delta Area (Shanghai) 2023.05

Projects

Course Schedule Website 2025
- Architected a dynamic scheduling application with Next.js, TypeScript, and Tailwind CSS to address inefficient manual course planning.
- Collaborated with a two-person backend team to integrate their schedule generation API and partnered with another four-person team by enabling calendar API exports, contributing to a platform that attracted over 2,000 unique visitors in its first month.

Junior College Discovery Minigame 2025

- Collaborated within a six-person team to develop an interactive student orientation game; engineered the navigation system by integrating Singapore's OneMap API.
- Delivered a key feature allowing users to simulate routes to school via various transportation methods, complete with estimated travel times, enhancing user engagement.

Hospital Management System 2024

- Engineered the core appointment management logic for a hospital appointment system as part of a five-person team, delivering the foundational features for doctors and patients to schedule, confirm, and cancel appointments.

Word-frequency Analysis on "A Dream in the Red Mansion" 2022

- Engineered an NLP pipeline in Python; applied TF-IDF for vectorization, K-Means to cluster chapters, and PCA for dimensionality reduction to visualize the novel's thematic structure.

Image Identification Program for Domesticated Plants 2022

- Addressed the need for automated plant disease detection by building a model to automatically identify and classify disease in Python with Tensorflow, achieving over 90% classification accuracy on leaf images

Skills

Languages: Chinese (Native), English (Proficient)

AI/ML: `PyTorch`, `TensorFlow`, `Scikit-learn`, `Pandas`, `OpenCV`

Programming: `Python`, `Java`, `C++`, `R`, `LaTeX`, `JavaScript`, `HTML/CSS`, `Elisp`

Developer Tools: `Git`, `GitHub`, `Docker`, `Emacs`, `JetBrains IDEs`

Platforms: MacOS, Linux (Debian, Fedora, Ubuntu)