Tianxiang Song (Michael)

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Profile

A highly motivated and detail-oriented AI engineer with a strong background in software development and machine learning. Proficient in various programming languages and tools, with a passion for continuous learning and applying cutting-edge technologies.

Skills

Areas of Expertise: Computer Vision, Natural Language Processing, Mobile Application (iOS), Web Application, Robotic Process Automation, Deep Learning

Programming Languages: Python, Java, Swift, C, C++, HTML, CSS, JavaScript, Haskell, MATLAB

Tools and Services: Linux, SQL, Xcode, VS Code, Unity, Flask, Django, React (Native), Node.js, Docker, Git, AWS, WebSocket, FastAPI, UiPath, Adobe Suite, MS Office.

Education

Sep 2023 - Sep 2024
Imperial College London   *Distinction*
MSc Computing (Visual Computing and Robotics)

Sep 2019 - Jul 2023
The University of Nottingham   *First Class*
BSc Computer Science with Artificial Intelligence

Experiences

Apr 2025 - Present
Air Aware Labs   *AI Scientist*
- Developed route optimization algorithm to reduce exposure to air pollutants.
- Improved the accuracy of Google Air Quality model by ML-based hyper-local calibration.
- Integrated LLMs to provide feedback on user's past activities and optimization suggestions.
- Trained Graph Neural Networks to provide personalized route recommendations based on past activities.
- **Skills:** Data Analysis, Machine Learning, Retrieval-Augmented Generation, Graph Neural Networks

Jan 2025 - Mar 2025
Visualist   *Machine Learning Intern*
- Fine-tuned image inpainting models for object removal, aligning with target user's needs.
- Dockerized and deployed image generation models for mask/prompt based editing.
- **Skills:** Deep Learning, Computer Vision, Image Processing, Generative AI, Docker, FastAPI

Dec 2024 - Jan 2025
Blitzo   *Software Engineer Intern*
- Enhanced and maintained mobile and web applications for a delivery booking platform.
- Implemented functions that allow users to book multiple active orders, improving operation efficiency.
- **Skills:** TypeScript, React, React Native

Dec 2024 - Present
Outlier   *AI Trainer (part time)*
- Optimized LLMs for coding expertise regarding instruction following, truthfulness and verbosity.
- Conducted Python code reviews for correctness and efficiency.
- **Skills:** Prompt Engineering, Large Language Models, Python, Code Review

Projects

Jan 2024 - Sep 2024
OCR Applied to Modern Literature   *Dissertation*
- Developed OCR models to extract text from historical Chinese documents in modern literature.
- Proposed synthetic data generation process to address the lack of training data.
- **Skills:** Computer Vision, OCR, Synthetic Data Generation, Deep Learning, Python

Jun 2022 - May 2023
Guided Assembly with Augmented Reality   *Dissertation*
- Developed an AR tutoring system as an iOS application to assist manual assembly tasks.
- Trained and integrated deep learning models for instruction automation based on step completion.
- **Skills:** Computer Vision, Augmented Reality, 3D modelling, SLAM, UX, UI, Xcode, Swift

Jun 2022 - Aug 2022
Document Text Recognition   *Researcher*
- Implemented and applied state-of-the-art image denoise methods to camera-taken documents.
- Proposed a table recognition algorithm for organizing recognized text in tabular format.
- **Skills:** Computer Vision, Image Processing, Deep Learning, OCR, Python

Oct 2021 - May 2022
Codenames - Game AI   *Technical Lead*
- Emulated the *Codenames* board game as a web application and deployed it in web servers.
- Implemented AI players using NLP techniques and client-server communication.
- **Skills:** HTML, JavaScript, Flask, AWS, Git, Natural Language Processing, Team Management

Jun 2021 - Oct 2021
Trademark Retrieval Tools   *Researcher*
- Built a software collaborated with Ningbo Customs for validating trademarks on a given picture.
- Fine-tuned deep neural networks as feature extractor and proposed a trademark retrieval algorithm.
- **Skills:** Computer Vision, Deep Learning, Python