

# Tianxiang Song (Michael)

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## Profile

A MSc graduate with strong background in Computing and AI. Passionate about software engineering and data analysis, with solid experience in machine learning, mobile development and web programming.

## 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.
- Skills:** Data Analysis, Machine Learning, Reinforcement Learning, Route Optimization

### 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.
- Implemented client-server communication and multi-player synchronization.
- 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 (such as *ResNet50*) on large datasets like *Logo-2K+* as feature extractor.
- Proposed a trademark retrieval algorithm.
- Skills:** Computer Vision, Deep Learning, Python.