Yeoh Han Yi

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EDUCATION

National University of Singapore Aug. 2023 – May 2027 (Expected)
Bachelor of Computing in Computer Science, Second Major in Mathematics First Class Honours

TECHNICAL SKILLS

Languages: Python, C++/C, Java, Javascript/Typescript, SQL

Developer Tools: Git, Docker, AWS, Jira, Bitbucket, Jupyter

Frameworks: React, NextJS, TailwindCSS, OpenCV

Libraries: Pytorch, Tensorflow, Scikit-Learn, Pandas, YOLO

EXPERIENCES

Software Engineering Intern | ***Video Analytics*** May 2024 – Aug 2024

Kabam Robotics

- Engineered and deployed object-based alert throttling algorithms for a fleet of security robots, enhancing real-time object detection.
- Executed extensive testing and benchmarking of cutting-edge computer vision models, including YOLOv10, to rigorously evaluate their suitability for production.
- Performed comprehensive data preparation, including cleaning, preprocessing, augmentation, and pipelining of image datasets, to facilitate custom model development and deployment.
- Trained and deployed YOLO models on AWS SageMaker, executing backend migrations to enable seamless integration of video analytics modules, leveraging endpoints for real-time predictions.
- Authored detailed documentation and optimized codebases, reducing technical debt and ensuring scalable future development.
- Technologies used: Python, Docker, OpenCV, YOLO, ROS, AWS, AWS Sagemaker, Bitbucket, Jira

Member – Vice-President August 2023 – Present

NUS/RC4 AI (Residential College 4 | National University of Singapore)

- Expanded expertise in ML/AI through RC4AI, a student union group partnered with AISG to deliver quality AI education.
- Led initiatives and facilitated workshops, enhancing members' understanding and application of AI technologies.

PERSONAL PROJECTS

NotStonks | *C++* | https://github.com/yhanyi/NotStonks May 2024 - Present

- Developing a versatile and exploratory library of C++ header files, designed to perform a wide range of computations, from machine learning to quantitative trading simulations, utilising mutexes and guards for enhanced concurrency control.
- Engineered for lightweight, plug-and-play integration into C++ programs, enabling seamless processing of data stored in .csv files.
- Implemented a variety of features, including the ability to save and load pre-trained models with approximately 95% neural network accuracy, and a simulated internal broker API using historical stock data from YahooFinance.
- A personal, continuously evolving project, serving as a playground for learning and experimenting with C++, and writing interesting mathematical, machine learning, and trading functions.

MedExtension | *Javascript, OpenAI* | https://github.com/yhanyi/MedExtension December 2023

- Developed a Chrome extension utilising OpenAI's GPT API to generate concise summaries for online medical documents.
- Created and submitted a complementary CRUD forum website using Typescript, NextJS, and MongoDB.
- Designed and implemented the project for Health Hack 2024 as the sole programmer on the team, learning to effectively communicate with non-programmers to develop features and products that met their needs.

ArknightsParticles | *Typescript, ThreeJS, GLSL* | https://github.com/yhanyi/ArknightsParticles December 2023

- Developed a particle effect simulation using Typescript and ThreeJS by reverse-engineering elements from a game website.
- Refactored and optimized outdated GLSL shaders and ThreeJS code to leverage the latest functionalities for improved performance.
- Migrated the project from an outdated React framework to NextJS, ensuring a smoother deployment on Vercel.

Digits Predictor Webapp | *Tensorflow, HTML, CSS, Javascript* | https://github.com/yhanyi/CNNDigits December 2023

- Trained a TensorFlow convolutional neural network, achieving 97% accuracy in predicting digits from handwritten images.
- Integrated TensorFlowJS to import and utilise the trained model in JSON format, enabling real-time predictions within the webapp.
- Implemented an interactive canvas component to capture and convert handwritten user input into data arrays for precise predictions.
- Visualized model confidence using ChartJS, providing users with intuitive and immediate feedback on prediction accuracy.

Portfolio Website | *Typescript, React, NextJS, ThreeJS* | https://github.com/yhanyi/Portfolio December 2023 – Present

- Acquired proficiency in web development tools including Typescript, Tailwind, NextJS, and ThreeJS to build a dynamic and feature-rich portfolio website.
- Self-taught React and NextJS frameworks, incorporating ThreeJS to integrate 3D elements and enhance user experience.