MOK Ngai Yiu, Enoch

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Looking for Full-Time Employment

EDUCATION

Nanyang Technological University, Singapore
Bachelor of Engineering (Computer Science) Aug 2020 – May 2024

- Recipient of CN Yang Scholarship - an exclusive research-intensive program awarded to 46 scholars.
- Relevant Coursework: Machine Learning; Neural Network & Deep Learning

ACADEMIC PROJECTS

Nanyang Technological University, Singapore
Final Year Project @ Monash University Jul 2023 – Dec 2023
Title: Federated Learning for Breast Cancer Classification

- Utilized PyTorch, OpenCV, and Flower frameworks to implement Federated Learning techniques for breast cancer diagnosis.
- Conducted an extensive review of existing literature on breast cancer diagnosis leveraging Deep Learning models, identifying key methodologies and advancements.
- Processed mammogram DICOM images using image processing techniques to enhance data quality for model training, including noise reduction and feature extraction.
- Developed and optimized Convolutional Neural Networks (CNNs) to analyze mammograms, incorporating data augmentation to enhance model robustness.
- Pioneered a novel approach in applying Federated Learning for breast cancer classification, showcasing the potential for decentralized training on medical data while maintaining data privacy.

Nanyang Technological University, Singapore
Research Project Sep 2021 – Apr 2022
Title: Automating Measurement of Cobb Angle of Scoliotic Patients

- Collaborated with Singapore General Hospital (SGH) professors and radiologists to evaluate and optimize image processing methods, including Canny Edge Detection and K-Means Clustering, for improving X-ray image quality and segmentation.
- Implemented algorithms for automated image enhancement and segmentation, reducing noise and accurately extracting relevant features for Cobb Angle measurement.
- Engineered a semi-automated AI application using Python, leveraging Computer Vision techniques to measure Cobb Angle, significantly accelerating diagnostic speed by 50-fold compared to manual assessment.

Making and Tinkering Project May 2021 – Aug 2021

- Headed a team of four individuals in identifying and rectifying setbacks and flaws in existing tray-return robots, focusing on enhancing their performance.
- Employed Raspberry Pi along with ultrasonic distance sensors, load cells, reflectance sensor arrays, and linear actuators to develop a prototype of an improved tray-return robot.
- Showcased the finalized functional prototype to Research and Development companies, including Pepperl+Fuchs and DSO National Laboratories, demonstrating innovation and problem-solving skills in hardware design and prototyping.

WORK EXPERIENCE

Iota Medtech
AI & Software Engineer Intern May 2022 – Jul 2022

- Leveraged programming skills in HTML, CSS, Electron (JavaScript), and Python to architect and stress-test the application's frontend and backend, ensuring its reliability and robustness.
- Successfully contributed to the development of a desktop application integrating AI models, showcasing proficiency in both frontend and backend development crucial for computer vision-based applications in healthcare.
- Effectively communicated technical concepts and project specifications through documentation, demonstrating organizational and communication skills valuable for collaborative engineering roles.

PERSONAL PROJECTS

Johnson & Johnson Vision
Eye-Spiring Hackathon Feb 2022

- Applied NLP techniques and PyTorch models to develop an AI-driven chatbot addressing customer queries regarding contact lens usage, while also incorporating functionality to identify symptoms indicating potential medical emergencies.

- Collaborated with a team of three individuals to devise a comprehensive telehealth business model aimed at encouraging the adoption of contact lens via a developed AI chatbot.

SKILLS

Languages: English, Chinese (Mandarin), Chinese (Cantonese)
Programming: Python, Computer Vision, PyTorch
Hardware: Raspberry Pi (Linux)