MOK Ngai Yiu, Enoch

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Ready for Full-Time Employment from May 2024

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

- Implemented latest powerful Deep Learning models for breast cancer image classification using PyTorch and OpenCV with 68% accuracy, demonstrating learning and application of cutting-edge technologies to a given task.
- Processed DICOM medical images using sophisticated image processing techniques to enhance data quality for model training, including noise reduction and feature extraction.
- Pioneered a novel approach in integrating Convolutional Neural Networks (CNNs) with a Federated Learning framework for breast cancer classification, promoting the potential for decentralized training on sensitive medical data while maintaining data privacy. The decentralized Deep Learning approach achieved 63% accuracy.

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, for improving X-ray image quality and segmentation.
- Implemented algorithms for automated image enhancement and segmentation, reducing noise and accurately extracting crucial features for precise medical measurements.
- Prototyped an AI application using Python, leveraging Computer Vision techniques to measure severity of scoliosis, significantly accelerating diagnostic speed by 50-fold compared to manual assessment.

Nanyang Technological University, Singapore
Making and Tinkering Project May 2021 – Aug 2021

- Headed a team of four individuals in identifying and addressing 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 engineer a better prototype of tray-return robot.
- Showcased finalized functional prototype to R&D companies, including Pepperl+Fuchs and DSO National Laboratories, displaying innovation and problem-solving skills in hardware design and prototyping.

WORK EXPERIENCE

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

- Engineered a desktop application using JavaScript and Python within 10 weeks, which integrated AI models to aid medical professionals with quicker diagnosis of illnesses.
- Tested both frontend and backend of the application to ensure its reliability and robustness.
- Communicated technical concepts and project specifications through detailed documentation, exhibiting organizational and communication skills valuable for collaborative engineering roles.

PERSONAL PROJECTS

Kaggle
Stroke Risk Prediction Jan 2024

- Cleaned dataset and handled missing values, leading to a comprehensive EDA and appealing data visualization of the processed dataset.
- Discovered key insights by deciphering the pivotal role of specific features in influencing stroke risk, with a keen focus on influential factors like age and blood sugar levels.

- Leveraged logistic regression to predict stroke risk based on provided features, and strategically elevated model performance through the implementation of ensemble learning and automatic hyperparameter optimization, achieving 94% accuracy.

Kaggle
Heart Attack Risk Prediction Jan 2024
- Conducted meticulous data cleaning and preprocessing, allowing for a comprehensive Exploratory Data Analysis (EDA) and visually compelling representation of factors influencing heart attack risk, such as blood pressure and age.
- Orchestrated a comparative analysis of machine learning models using scikit-learn on the tabular dataset.
- Unveiled the advantageous power of ensemble learning in elevating prediction accuracy of 64%.

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 identification of potential medical emergencies based on user's mentioned symptoms.
- Collaborated with a team of three individuals of various backgrounds and skillsets to devise a comprehensive telehealth business model aimed at encouraging the adoption of contact lens via an AI chatbot.

CO-CURRICULAR ACTIVITIES

NTU Crescent Hall
Ultimate Frisbee Captain Sep 2020 – Aug 2022
- Planned and led trainings for 30 hall residents, overseeing safety and difficulty of trainings to set appropriate coaching level for a supportive and inclusive environment.
- Secured necessary funding and budget for sports equipment through strategic negotiations with hall council.
- Exhibited effective communication and financial planning skills, contributing to procurement of sports equipment for the entire community.

NTU CN Yang Scholars' Club
Freshmen Orientation Camp Head Programmer Nov 2020 – Aug 2021
- Devised and organized engaging games and camp activities for a cohort of 31 freshmen over 3 days, fostering an environment conducive to interaction and bonding.
- Spearheaded a team of 10 subcommittee members in fortnightly meetings, orchestrating seamless coordination for preparation of physical, hybrid, and virtual orientation camps.
- Demonstrated adept leadership in managing diverse tasks and delegation of work in report writing and event planning.

NTU Crescent Hall
Hall Council (Sports Director) Sep 2020 – Aug 2021
- Coordinated comprehensive planning and logistics of hall-wide Bingo event, promoting active participation in hall sports and recreational games.
- Managed event flow for 21 participants, maintaining organizational composure during the fast-paced and dynamic event.
- Spearheaded acquisition of sports equipment with crafting of budget reports for 16 sports groups encompassing 300 residents to promote health and wellness.

SKILLS

Languages: English, Chinese (Mandarin), Chinese (Cantonese)
Programming (ML): PyTorch, Tensorflow, Scikit-learn
Programming (Data Visualization): Pandas, Matplotlib, Seaborn
Programming (General): Python, JavaScript, SQL, Numpy, Linux, Bash, Git