# Enoch Mok

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## Education

**Nanyang Technological University** Aug 2020 – Jun 2024
*Bachelor of Engineering - Computer Science* *Under CN Yang Scholars Programme*
*Specialization: Data Science & Artificial Intelligence*

## Coursework

**Courses:** Machine Learning, Data Science, Databases System Principles
**Awards:** Nanyang Scholarship

## Work Experience

**Iota Medtech** | *JavaScript, Python* May 2022 – Jul 2022
Software Engineer Intern

- Created a desktop software for lung cancer mass screening, using **JavaScript** as frontend and **Python** as backend.
- Integrated authentication and offline database to store hashed user's credentials using **PassportJS** and **PouchDB**.
- Conducted manual testing procedures of application, ensuring robustness and reliability with 1000 input images.
- Presented application and its performance to clinical partners, screening over 1000 patients in less than 6 mins.

## Projects

**Home Server** | *Linux, PostgreSQL, Docker, Python* Sep 2024 - Ongoing

- Managed a **Linux** environment on an unused PC, including setup and administration of LXC containers.
- Deployed Pi-hole for ad-blocking, enhancing network security and performance across the network.
- Configured and maintained a local **PostgreSQL** database for API data scraping projects via cron jobs.
- Utilized Portainer to manage **Docker** containers running personal Telegram bots written in **Python**.

**Retinal Image Segmentation** | *Python, PyTorch* | GitHub June 2024 - Ongoing

- Studied and implemented state-of-the-art machine learning models from research papers using **Python** and **PyTorch**, replicating results mentioned in them.
- Trained Generative Adversarial Networks (GANs) for retinal image segmentation to expedite diabetic retinopathy diagnosis with computer vision, achieving over 97% accuracy over 3 different datasets.

**HDB-Public Transport Data Analysis** | *Python, numpy, Pandas* | GitHub Jul 2024

- Analysed public transport statistics to review areas with inadequate transport facilities using **Python**, and thus recommend future transport infrastructure projects to expedite.
- Developed interactive geospatial visualizations, illustrating public transport coverage in 40 residential areas.
- Designed and implemented a public transport equity index, pinpointing current service disparities affecting half a million residents and quantifying the extent of underservice in these communities.
- Implemented automated data extraction processes to retrieve real-time public transportation information from multiple RESTful APIs and data sources, enabling accurate analysis of current service availability.

**Federated Learning for Breast Cancer Classification** | *Python, PyTorch, OpenCV* | GitHub Jul 2023 - Dec 2023

- Achieved 68% accuracy with machine learning models fine-tuned on breast cancer images using **Python** and **PyTorch**, analysing and processing raw medical images beforehand with **OpenCV**.
- Simulated training environment with data privacy by decentralizing AI models via Flower framework.
- Published a book chapter in *AI-Driven Innovations in Digital Healthcare*, completing comprehensive research and writing within 6-months timeframe.

## Skills

Languages: **Python**, TypeScript, SQL, Java, R, JavaScript
Databases: **PostgreSQL**, **CouchDB**
Tools: **Git**, **Docker**
Libraries: **PyTorch**, **OpenCV**, **scikit-learn**, **numpy**, **Pandas**, Tensorflow

## Hobbies

**Ultimate Frisbee** 2014 – Present

- Managed and led diverse teams as captain in various competitive events, both locally and internationally.
- Coached at alma mater - prepared and oversaw weekly training plans.