SHEN SHU HSUAN

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EDUCATION

Singapore Management University **Jan 2024 - Jul 2025**

- **Master of IT in Business** (Artificial Intelligence Track)
  - Awarded the MITB SCHOLARSHIP

National University of Singapore **Aug 2019 - Jun 2023**

- **Bachelor of Engineering in Biomedical Engineering, Honors**

EXPERIENCE

Data Analyst | National University Health System - Singapore **Sep 2023 – Feb 2024**

- Designed and implemented the Healthier SG Dashboard, featuring interactive visualizations that empowered stakeholders to make informed, data-driven decisions.
- Streamlined data preprocessing and transformation workflows using Python, ensuring high-quality inputs for datasets exceeding 1 million data points.
- Implemented efficient automation techniques, effectively saving over 80% of processing time.

Engineering Intern | Abbott – Singapore **Jan 2022 - May 2022**

- Conducted analysis of production workflows and identified inefficiencies.
- Spearheaded material usage optimization initiatives, achieving a 10% cost reduction and driving measurable productivity improvements.

PROJECTS

Phishing URL Detection Web Application

- Built a full-stack web application for real-time phishing URL detection using Flask, React with Vite and TypeScript, achieving 85% accuracy and F1 score.
- Integrated the machine learning model with a user-friendly interface by designing RESTful APIs for seamless backend and frontend communication.
- Streamlined the development process by implementing modular design and Git version control, resulting in more efficient collaboration and faster iteration cycles.

Spotify-to-MP3 Playlist Downloader

- Automated an end-to-end pipeline in Python to extract Spotify playlist data, match tracks on YouTube via API calls, and download MP3 files using ffmpeg
- Designed modular components for scalability, including API integration, data processing, and audio conversion
- Utilized tools like yt-dlp, pandas, and Git to streamline development and data management

Fighting AI Hallucinations for Medical Practitioners

- Developed a solution addressing AI hallucinations in medical applications using the MedHALT dataset by domain-specific pretraining and Retrieval-Augmented Generation (RAG)
- Improved the model accuracy and F1 from 72% to 94% in None of The Above test, enhancing trust in AI for healthcare professionals

Medical Image Semantic Segmentation

- Utilized Convolutional Neural Networks (CNNs), including UNet, ResNet architectures, to develop a robust classification and segmentation model for CT scans.
- Experimented with various image augmentation techniques, loss functions, and hyperparameters, achieving a segmentation accuracy of 0.88 mIoU.

ADDITIONAL

Programming Skills: Python, TypeScript, JavaScript, HTML/CSS, SQL (mySQL)
Framework: Pytorch, Flask, React
Machine Learning Skills: Applied Machine Learning, NLP, LLM (RAG), CNN, Computer Vision
Other Technical Skills: Linux, Algorithm Design, Tableau, Git
Language Skills: English, Mandarin, Cantonese