Daryl Chen

darylchen46@gmail.com | linkedin.com/in/darylchen46 | darylchen46 | darylchen46.github.io

EDUCATION

National University of Singapore
Bachelor of Pharmacy, Honours *Aug 2022 – May 2026*

- Minor in Computer Science
- **Relevant Coursework:** CS2030 Programming Methodology II, CS2040 Data Structures and Algorithms, CS2100 Computer Organisation, CS3237 Introduction to Internet of Things
- Varsity Bouldering, Varsity Squash, Captain of Raffles Hall Squash

Hwa Chong Institution
GCE A-Level *Jan 2014 – Dec 2019*

- 3 H2 Distinctions (AAA/B)
- Received EAGLES Award (2018, 2019) and Colours Award (2018, 2019)

TECHNICAL SKILLS

- **Languages:** Python, Java, Bash, SQL, C++/C, Javascript, HTML, CSS
- **Developer Tools:** Git, Docker, AWS, Terraform, Apache Kafka
- **Machine Learning:** PyTorch, Scikit-learn, Tensorflow, Keras, Feature Engineering, Model Development
- **Data:** PySpark, Pandas, NumPy, AWS, Jupyter, AWS DynamoDB, AWS S3, AWS IOT
- **Certifications:** Data Engineering with Open-Source Tools; DevOps: Introduction to Developer Operations; JavaScript Backend Developer; Python, Bash and SQL Essentials for Data Engineering; AIAP Foundation; Introduction to Linux

WORK EXPERIENCE

Pre-Registration Pharmacist
National Heart Centre Singapore Jun 2026 – Jan 2027

- Used Sunrise Clinical Manager (EMR) in daily clinical operations, developing practical familiarity with enterprise information systems, structured data entry, clinical workflows and system-based documentation.
- Collaborated with physicians, nurses and pharmacy colleagues to resolve medication-related and workflow issues, supporting accurate information exchange across multidisciplinary teams.
- Worked within a highly regulated healthcare environment where data accuracy, system reliability and adherence to established procedures are essential.

Pharmacy Intern
Pfizer May – Jul 2025

- Conducted structured research and data analysis to support a new product introduction, synthesising clinical, market and healthcare data into actionable insights for medical and commercial stakeholders.
- Designed and implemented an automated system for expiry-date tracking across product inventory, streamlining monitoring workflows and improving the accuracy of inventory records.
- Identified operational inefficiencies and contributed data-driven process improvement ideas to enhance team workflows.

Data Analyst Intern
MOHT May – Jul 2024

- Performed data profiling and exploratory data analysis using SQL and PySpark on local administrative healthcare datasets, identifying data quality issues, anomalies and inconsistencies.
- Developed reusable PySpark templates to support structured and repeatable data profiling workflows across healthcare datasets.
- Built automated data enquiry solutions using GovTech tools to streamline information retrieval and reporting workflows, reducing reliance on manual processes.
- Designed entity-relationship diagrams (ERDs) spanning clinical, socioeconomic, lifestyle and administrative datasets to support data modelling and understanding of data relationships.
- Documented data findings and contributed materials for the TRUST Data Access Committee, supporting data governance and communication between technical and non-technical stakeholders.

PROJECTS

KaCHOW! – Voice-Controlled IoT System with Cloud-Based Monitoring Aug – Nov 2025

- Developed an integrated IoT system combining ESP32 microcontrollers, machine learning models and an AWS cloud backend to enable voice-controlled robotic operations and remote monitoring.
- Implemented an AWS-based communication and data pipeline using AWS IoT Core, MQTT, AWS Lambda, DynamoDB and S3 to transmit device commands, process events and store audio recordings and prediction results.
- Trained TensorFlow/Keras CNN models to classify voice commands and detect crying sounds, achieving 92% training accuracy for voice recognition and 97% for infant crying detection.
- Contributed to the system's machine learning component, including audio preprocessing, spectrogram generation, model training, hyperparameter tuning and evaluation using confusion matrices.
- Collaborated on integrating cloud services with ESP32 devices and a ReactJS web application to support real-time status updates, event logging, obstacle alerts and remote device control.
- **Technologies:** Python, TensorFlow, Keras, AWS IoT Core, AWS Lambda, DynamoDB, S3, MQTT, ESP32, ReactJS, FreeRTOS