

## EDUCATION

- Nanyang Technological University** Aug 2023 – May 2027 (Expected)
- Bachelor of Electrical and Electronic Engineering, CGPA: 4.86/5.00
  - Honors (**Highest Distinction**) (Expected)
  - Specialization in **Data Science and Machine Learning** | **Dean's List (2024)**
  - Relevant Modules: (1) *Introduction to Data Science and Artificial Intelligence* [Python] (2) *Data Structures & Algorithms* [Python] (3) *Designing and Developing Database* [MySQL, NoSQL]
  - **NTU Science & Engineering Undergraduate Scholarship Recipient**
  - Presenter at **The International Conference of Undergraduate Research (ICUR) 2025**

## Certifications & Training

- Bloomberg Market Concepts Certificate (BMC)
- Coursera Relevant Modules: (1) *Python Data Structures* (2) *Supervised Machine Learning* (3) *Unsupervised Learning, Recommenders, Reinforcement Learning* (4) *Excel Skills for Data Analytics and Visualization*

## SKILLS

- **Software Programming:** Python, R, C Language
- **Database:** MySQL, NoSQL, MongoDB
- **Software Applications:** Figma, Jupyter Lab
- **Cloud & Big Data:** AWS S3, Boto3, PySpark
- **Data Science & AI:** Pandas, NumPy, Scikit-learn, TensorFlow, XGBoost, Decision Trees

## RESEARCH & INTERNSHIP EXPERIENCE

**GlobalFoundries, Data Analyst/Data Scientist Intern** May 2025 – Dec 2025 (Expected)

### Project 1: Scalable Data Pipeline & Compression

- Developed modular data pipelines for multi-month trace data processing with **AWS S3, Boto3, PySpark**, optimizing query performance.
- Implemented Parquet and Snappy compression techniques to improve retrieval speed and efficiency for high-volume semiconductor datasets.
- Reduced extraction runtime from hours to 4–8 mins; cut storage by 90%; eliminated session timeouts.

### Project 2: Trace-to-Image Machine Learning Pipeline Development

- Conducted literature review and data export across 60 months for all trace types.
- Converted segmented traces into images; trained baseline RNN models with hyperparameter tuning via Optuna, Keras-Tuner.
- Delivered modular classification pipeline with  $\geq 5\%$  accuracy gain.

**A\*STAR, Healthcare Data Pre-Processing Research Intern** Jan 2025 – Apr 2025

- Supporting the project "National Healthcare Group (NHG): Validating an AI Facial Health Screening Product with A\*STAR", developing data preprocessing workflows to anonymize sensitive healthcare datasets while ensuring compliance with regulations.
- Conducting feature preservation analysis and collaborated with the AI research team to optimize preprocessing methods for model performance.

**Shanghai DAObi Education Technology Co., LTD(Classbro), Data Science & Machine Learning Instructor** Jun 2024 – Dec 2024 (Part-time)

- Delivered lectures on data science fundamentals, SQL, machine learning algorithms, contributing to the company's revenue growth of **10,000 SGD+**.

## ACADEMIC PROJECTS / MODULE PROJECTS

### AI & Machine Learning Projects:

**URECA Project: *AlzCare Smart Watch (In Progress)* (Team Leader of 3 Members)** Aug 2024 - Present

- Spearheading a team to develop an AI-powered wearable device for dementia patients that integrates real-time health monitoring, fall detection, geofencing, reminder and caregiver alerts.
- Collaborating with SG Jamiyah Nursing Home to test and refine device features in real-world conditions, while also seeking further partnership with SG DementiaHub for broader dementia care adoption.
- Implementing AIML models for behavioural analysis and geofencing to enhance patient care.

**NTU Module: *Introduction to Data Science and Artificial Intelligence*** Feb 2024 – Apr 2024

Module Project: Hotel Booking Trends and Cancellation Forecast (Team Leader of 4 Members)

- Led a team of 4 in applying **Python** Programming with 4 **Machine Learning** Models (i.e. Logistic Regression, Random Forest, Decision Tree, XGB Classifier) to analyse a Kaggle dataset, achieving an 86.6% accuracy with Random Forest.

- Applied One-hot encoding, K-Fold Cross Validation, and TensorFlow optimization (incorporating Adam Optimizer, Neural Network Model, L2 regularization, Batch Normalization), achieving a 91% accuracy.
- Delivered actionable insights through data visualization, showcasing a 5% increase in predictive accuracy over standards.

### **MySQL & NoSQL Projects:**

**NTU-NBS Module: *Designing and Developing Database***

Aug 2023 – Nov 2023

Module Project: Electric Vehicles Transition Analysis (Team Member)

- Collaborated with team to apply **MySQL** and **NoSQL (MongoDB)** databases in analysing the transition from fossil-fuel to electric vehicles, focusing on data-driven research and strategic recommendations for charging infrastructure in Singapore.
- Presented findings on environmental and economic impact of EVs, contributing to a comprehensive understanding of EVs' role in climate change mitigation.

### **LEADERSHIP / CO-CURRICULAR ACTIVITIES / COMMUNITY INVOLVEMENT / VOLUNTEERISM**

**NTU Institution of Engineering and Technology (IET), *Liaison Manager***

Jul 2024 – Present

**NTU Investment Interactive Club (IIC) Investment Academy, *Member***

Jul 2024 – Present

**CFLS Model United Nation Club (CFLS-MUN), *Academic Director***

Dec 2019 – Dec 2021

- Hosted the North-East MUN Conference (**1,000+** participants) as **Chairman**.
- Led **World MUN** and **Yale MUN delegations**, proposing draft resolutions with **international approval**.
- Instructed **100+** members in CFLS-MUN about conference processing and document writing.