

# HENG BOON LONG

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## EDUCATION

### NATIONAL UNIVERSITY OF SINGAPORE

Aug 2022 - Present

Bachelor of Science in Business Analytics (School of Computing)

- Specialisation in Machine Learning-based Analytics
- GPA: 4.61 / 5.0 (Highest Distinction)
- Relevant courseworks: Data Structures & Algorithms, Object-Oriented Programming (OOP) in Java, Database Visualisation & Management, Data Engineering, Feature Engineering, Machine Learning

## INTERNSHIP & WORK EXPERIENCE

### DELOITTE CONSULTING *AI & Data Intern*

Jun 2024 – Aug 2024

- Provide technical support in the project to automate Identity and Access Management (IAM) in all Singapore healthcare agencies.

### AFFYN (WEB3 START-UP) *Data Analytics Intern*

Sep 2023 – Jan 2024

- Drove implementation of data pipeline through Google Cloud Platform to retrieve and load blockchain transaction data into data warehouse daily, enhancing overall data currency.
- Trained and fine-tuned classification model to predict churn propensity of users, to trigger push notifications to those with high churn propensity and increase retention rates.
- Performed statistical deep-dive into soft launch of application in Singapore through user retention analysis, crafting data-driven recommendations to management and relevant stakeholders.
- Constructed dashboards through Looker Studio on company NFT sales, performance and social media outreach, lifting data transparency for critical decision-making in company.

### SGINNOVATE *Data Analytics Intern*

May 2023 - Jul 2023

- Improvised and maintained data pipelines to integrate raw data from disparate sources to data warehouse, allowing downstream data reports and analytics used by 80% of all departments daily.
- Automated data processes using Alteryx Scheduler to ensure timely updates of data warehouse during off-hours and remove waiting time of up to 2 hours.
- Developed and maintained dashboards using Tableau to track company's KPIs, programme feedback and operations across departments, reducing need for manual tracking.
- Presented key data findings on dashboards to key stakeholders from >50% of company's departments regarding actionable insights and key metrics to enhance future decision-making.

## TECHNICAL SKILLS

- Programming Languages: Python | SQL | Java | R
- Data Analytics Tool: Alteryx | Tableau | Google BigQuery | Google Looker Studio | Amplitude | Excel | R Studio
- Database Management: MySQL | PostgreSQL | MongoDB
- Python Libraries: NumPy | Pandas | Matplotlib | Seaborn | Scikit-Learn | NLTK | TensorFlow | PyTorch
- Web Development: React | Next.js | Vue.js | Tailwind CSS | TypeScript
- Cloud Platforms: Amazon Web Service (AWS) | Google Cloud Platform (GCP)

## KEY PROJECTS

### Social Bot (Twitter) Detection

Feb 2024 - May 2024

- Engineered a novel social bot detection model using a hybrid graph approach on PyTorch, utilising a state-of-the-art Twibot-22 dataset and achieving >90% in accuracy, recall and f1-score.
- Submitted research paper to the Hawaii International Conference on System Sciences (HICSS) '25 under Professor Wang Qihong's recommendation.

### Car Price Forecasting Data Pipeline

Feb 2024 - May 2024

- Orchestrated ETL pipeline on Apache Airflow to scrape second-hand car listings from online marketplaces and train predictive models for price forecasting based on daily market trends, achieving 98.8% in R-square value.
- Leveraged Google Cloud Storage as staging area for data transformation and enrichment, before implementing incremental load into BigQuery data warehouse, architected using Star schema for optimised analytical querying.

### Sentiment Analysis of University Modules (NLP)

May 2023 - Jul 2023

- Collaborated with co-developer closely to produce a telegram bot capable of analysing sentiments of NUS courses by building own NLP model, eliminating up to 3 hours of manual research potentially.
- Conceptualised and built entire bot flow, integrating sentiment analysis component with Telegram front-end as well as utilising MongoDB as back-end database to improve bot response time by close to 80%.