Harry Chang

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EDUCATION

- **National University of Singapore** — Singapore
  Bachelor of Science - Data Science and Analytics — *Aug 2020 - May 2024 (Expected)*
  Coursework: *Big Data Systems for Data Science (In Progress), Convex Optimization, Data Science in Practice, Data Structures and Algorithms, Data Visualization, Database Technology and Management, Introduction to Data Science, Linear Algebra, Multivariable Calculus, Optimization for Large-Scale Data-Driven Inference, Probability, Regression Analysis, Statistical Learning*

SKILLS

- **Programming Languages**: Python, R, SQL, Java, Stata, MATLAB
- **Machine Learning**: Scikit-Learn, NLTK, LIWC, TensorFlow, Keras, JAX
- **Cloud and Database Systems**: MySQL, PostgreSQL, SQLite, BigQuery, GCP, AWS, Git, Docker
- **Data Visualization**: Numpy, Pandas, Matplotlib, Seaborn, Librosa, ggplot2, Folium, Tableau, Power BI, Domo, Gephi
- **Design and Front-End Tools**: Figma, Canva, Streamlit, Gradio, HTML, CSS, Javascript, React, Retool
- **Task Management Tools**: Jira, Confluence, Asana, Notion, ClickUp, Airtable

EXPERIENCE

- **Groundup.ai** — Singapore
  Data Science Intern — *Jul 2023 - Dec 2023 (Expected)*
  - **Environmental Sound Collection**: Deployed sound sensors using Raspberry Pi technology to acquire real-time noise data from naval vessels and support comprehensive analysis using spectrograms for anomaly detection
  - **Exploratory Data Analysis**: Utilised Librosa, Matplotlib and Scikit-Learn to detect anomalies for predictive maintenance of machines using spectrograms and principal component analysis (PCA)
  - **Infrastructure Automation**: Leveraged AWS CloudFormation and YAML to script automatic configuration of Amazon S3 buckets, leading to significant reduction in manual setup time and minimizing potential for human error
  - **Dashboard User Experience**: Collaborated with Product Lead, AI Lead and Software Engineers to improve dashboard user experience for military experts in Republic of Singapore Navy (RSN)

- **SCOR** — Singapore
  Actuarial Intern — *May 2022 - Aug 2022*
  - **Actuarial Analysis of APAC Market Databases**: Examined reinsurance treaties across APAC markets (Pakistan, Thailand, Vietnam), incorporating client portfolio and loss data into xAct treaty pricing system
  - **Credit Product Pricing**: Performed synthetic minority oversampling and developed machine learning models, including logistic regression and random forest, to forecast insurance claims, achieving an average model accuracy of 80%

- **Immigration@SG LLP** — Singapore
  Data Migration Intern — *Oct 2020 - Jan 2021*
  - **Data Cleaning**: Performed data cleaning of over 30,000 records using Excel, Pandas (Python) and dplyr (R)
  - **Customer Segmentation**: Derived customer segmentation models using machine learning techniques (including regression, decision trees, market basket analysis) to improve company's marketing strategies
  - **Time Series Analysis**: Completed time series analysis using past sales data to forecast future monthly revenue

PROJECTS

- **PassionPassport**: Built and integrated web application with ChatGPT that utilises hobbies as inputs to recommend itineraries for overseas travel. Awarded Top 15 Finalist out of 141 team submissions at NUS LifeHack 2023. Tech: Python, HTML, CSS, Firebase, Streamlit, OpenAI API, Folium, BeautifulSoup4. (Jun '23)

- **Fintech Media Webscraper**: Built webscraper using SNScrape and BeautifulSoup4 to obtain data from Twitter accounts of cryptocurrencies and blockchain news websites. Tech: Python, HTML, CSS, Streamlit, SNScrape, BeautifulSoup4. (Jun '23)

- **Enhanced TikTok Analytics Dashboard**: Created open-source dashboard to analyse views, shares, likes & comments of TikTok videos using hashtag analysis. Tech: Python, Streamlit, NLTK, Gensim, Plotly, Matplotlib & Seaborn. (May '23)

- **Grocery Recommendation System**: Built matrix-factorisation based recommendation system to suggest healthier alternatives for grocery shoppers with varying demographics Tech: R, Python, Streamlit (Apr '23)

HONORS AND AWARDS

- Top 15 Finalist out of 141 team submissions at NUS LifeHack 2023 (Jun '23)
- Theme Best (Safety) and First Runner-Up (Overall) out of 117 team submissions at NUS LifeHack 2022 (Jul '22)
- First Runner-Up at NUS Fintech Month Hackathon 2021 (Jan '21)

ACTIVITIES

- **Co-founder and President, NUS Product Club** — Singapore
  Spearheaded logo design and oversaw operations, partnerships and workshops of new club — *Apr 2023 - Apr 2024*

- **President and Marketing Director, NUS Statistics and Data Science Society** — Singapore
  Oversaw efforts of 56 club members in organising events and technical workshops — *May 2021 - Nov 2022*

- **Deputy Head of Finance, Google Developer Student Clubs NUS** — Singapore
  Compiled team budgets to ensure sufficient funding for workshops and hackathon — *Sep 2021 - Apr 2022*