Alan Niu

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EDUCATION

Bachelor of Actuarial Studies / Computer Science
UNSW Sydney
- High Distinction average (92.5).
- Scientia Scholar | Awarded $10,000 per year for four years having achieved 99.90+ ATAR.
- Elite Student Programme | Substituted 3 programming courses for more challenging electives.

Sydney, NSW
Feb 2024 - Present

Young Scholars Programme (Mathematics)
University of Auckland
- Took additional university courses during senior year of high school.
- Coursework | Mathematics Modelling using MATLAB (99, First-in-course award), Discrete Mathematics (93).

Auckland, NZ
Feb 2023 - Feb 2024

Cambridge International A-level Examinations
Macleans College (High School)
- Achieved 4 A* and 2 A grades, equivalent to a 99.95 ATAR.
- A* in Mathematics, Further Mathematics, Computer Science, Physics, and A in Economics, English
- Received the top-achievers award from the school 3 years in a row.

Auckland, NZ
Oct 2019 - Dec 2023

PROJECTS/COMPETITIONS

Competitive Programmer
Informatics Olympiads View certificate
- Achieved silver award at the Australian Invitational Informatics Olympiad in 2023.
- Placed 5th in the New Zealand Programming Competition.
- Selected to attend the NZ Informatics Olympiad national camp in 2022 and 2023.
- Designed algorithms to solve problems in sorting, dynamic programming, graphs, segment tree, etc.

Auckland, NZ
Oct 2020 - Mar 2023

Web Developer
Financial Content Recommender View project
- Compiled a list of 50+ insightful financial videos/articles from YouTube and Investopedia.
- Developed a financial knowledge and personality test using Google Forms with 20+ questions.
- Used Google's App Script to recommend content according to user's knowledge level and personality.
- Sent out 100+ automated emails to users containing personalised recommendations.

Auckland, NZ
Oct 2023

Summer Researcher
University of Auckland View repository
- Conducted research to enhance phylogenetic network reconstruction using machine learning.
- Developed and evaluated a TensorFlow-based neural network as an alternative to Random Forests.
- Optimised hyperparameters through GridSearchCV to improve prediction accuracy from 80% to 90%.

Auckland, NZ
Dec 2023 - Feb 2024

Data Analyst
Citadel Securities Datathon View report
- Investigated the relationship between obesity, junk-food stocks' price, and unemployment in the US
- Created visualisations and regression models all summarised in 13-page final report.
- Discovered that stock price of companies like McDonalds has a 98% correlation with the poverty levels.

Sydney, NSW
Apr 2024

Student Economist
World Economics Cup View certificates
- Competed in national and APAC-wide economics exams featuring economics theory and case study questions.
- Our team's presentation placed top 10 during the continental finals out of 50 teams selected within APAC.

Auckland, NZ
Aug 2023

EXTRA-CURRICULARS

AI Developer
UNSW AI Society
- Building garbage classification system taking multimodal input to predict recyclability of waste.
- Used Resnet50 base model and currently experimenting with models such as CLIP to combine text and image sentiments for more accurate waste classification.

Sydney, NSW
Mar 2024 - Present

Presenter
UNSW Competitive Programming and Math Society
- Prepared and presented programming workshops to crowds exceeding 200 people.
- Explained algorithms such as binary search, graphs, and dynamic programming with C++ implementations.

Sydney, NSW
Mar 2024 - Present

Software Developer
UNSW Quantitative Trading Society
- Maintained front-end of Quantsoc's website and adding features like image upload to the event-creation page.
- Developing trading bot using simple moving averages, statistical arbitrage, and sentiment analysis techniques.

Sydney, NSW
Mar 2024 - Present

SKILLS/CERTIFICATES

- Skills: C/C++, Python, R, Javascript, HTML, CSS, Pandas, Numpy, Tensorflow, Keras, PyTorch, Scikit-learn, Excel
- Certificates: CS50 - AI with Python, Coursera - Advanced Learning Algorithms, Coursera - Supervised ML
- Languages: English, Mandarin