

RODO NGUYEN

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EDUCATION

Queensland University of Technology (QUT)

Bachelor of Information Technology - GPA: 6.4 / 7.0
Computer Science Major; Intelligent Systems Minor

Graduated Nov 2022

Achievements: International Merit Scholarship, Dean's List

Highlight units: Web & Cloud Computing, Artificial Intelligence, Machine Learning, Robotics Intro

EXPERIENCE

Vacation Researcher – CSIRO

Nov 2022 – Feb 2023

- Analysed and retrieved meaningful insights of resource consumption (memory, runtime) of a C++ machine learning library on multiple hardware (Raspberry Pi and PC).
- Carefully documented the workflow for reproduction
- Constructed a plan of future work for training deep learning on micro-controllers (e.g., STM32 boards).

Software Engineer (Front-End) – S23M

June 2022 – Nov 2022

- Designed an intuitive Front-End for interacting with Health Data by using React and NodeJS
- Implemented components that allow querying, editing data through RestAPI and presenting results on the App's UI
- Constructed detailed documentation and tutorials for users / future developers

Research Intern (VRES) – QUT

Dec 2021 – July 2022

- Analysed the effectiveness of Verifiable Python (vPython) for software cybersecurity by identifying its important characteristics. Led by Dr Gowri Ramachandran.
- Eliminated ~95% of manual work by developing an automated analysis pipeline (Bash Script and Python) that executes the programs, analyses and records results.
- Won the [best research poster award](#).
- Continued to work voluntarily on this project for the next 5 months to attain a comprehensive analysis for vPython.

International Students Officer – QUT Student Guild

Dec 2020 – Dec 2021

- Advocated for international students on a university-wide scale to ensure they have adequate conditions to thrive.
- Liaised with a wide range of stakeholders and Governed initiatives that support international students.

HIGHLIGHT PROJECTS

Twitter Spam Detection

Python | Natural Language Processing | [GitHub](#) | [Demo App](#)

- Led a team of 4 to design 4 separate Machine Learning models that can identify spam tweets with >95% accuracy (LSTM, Transformer, SVM and Naive Bayes), provided insights into each model's strengths and shortcomings
- Evaluated the suitability for real-world application: Naive Bayes won due to its low training, inference time, high weighted-F1
- Further minimised the computation consumption by deeply analysing the dataset and removing uninformative features without impacting the accuracy

Also in this [repository](#): Reports & Codes of Movie Recommendation (Clustering), Number Recognition (Computer Vision), Person Re-identification, Forest Classification, Crime Prediction (Regression Model)

BitTracker

Pandas | Temporal data, Finance | [GitHub](#) | [Blog](#)

- Programmed a cryptocurrency trading bot in Python that can guide retail investors to trade efficiently
- BitTracker can theoretically bring +110% profit annually on average by utilising SuperTrend indicator
- Intensively tested BitTracker to select the best configuration and maximise potential risk-adjusted return
- Planning to incorporate Deep Learning for smarter trading strategy and build a User Interface for easier operation

Twitter E-nalyst

NodeJs, React, AWS, RestAPI | Software | [GitHub](#)

- Built a React web application with a modern user interface that analyses keyword sentiment on Twitter using Twitter REST API
- Implemented auto-scaling server using AWS EC2, Elastic Load Balancing and Auto Scaling stack to handle inconsistent usage
- Reduced latency by 10 times by integrating persistence services (S3, Redis and ElastiCache)

Personal Website

React, HTML, CSS | [rodonguyen.dev](#) | [GitHub](#)

- Programmed my responsive personal website from scratch with React
- All styling was made with self-coded CSS and no Bootstrap, which was a fun & unique experience

SKILLS

4 years of building software and machine learning projects in Bachelor's degree and 1 year working in top research institutions in Brisbane

- Python: 4 yrs building [Machine Learning models](#) with **Keras, PyTorch, Sklearn**; Trading Bot and **Data Visualisation (BitTracker)** with **pandas, numpy, matplotlib**; [Leetcode](#); implementing A*/Tree Search in [Sokoban Solver](#).
- JavaScript: 3 yrs Web App with **React, Docker, AWS** cloud service ([Twitter E-nalyst](#), [Personal Website](#)); [RestAPI](#) with **ExpressJs, MongoDB, Mocha, Mongoose**.
- C#, Java: 2yr building [OOP projects](#), applying **data structures, search algorithms**.
- SQL: 2yr implementing **database** for various projects; **MySQL, SQLite**.
- C/C++: 1yr coding mini projects and working with MLPack – C++ Machine Learning library
- Bash Script 1yr: automating programs and tasks in researching roles
- Project management: Jira, Slack, Agile, Trello, Scrum
- Others: Linux/Ubuntu, Git/GitHub, Embedded Systems

TEAMWORK & ADDITIONAL ACHIEVEMENTS

Ravi's Study Program: 3-month Intensive Programming Bootcamp	Nov 2022 – Feb 2023
HiQ Concierge at QUT: Worked collaboratively and communicated effectively to service our students and the public	2022
Australian GovHack: Honourable Mention with project ' Outliers ' in Youth education and employment	2021