Danny Huang

+61 452504531 | dannyhuang1234@gmail.com | NZ Citizen

Professional summary

Full-stack Developer currently working as a **Cloud Engineer at National Australia Bank** with a background in **Electrical Engineering specialising in Machine Learning.** Built and deployed **multiple ReactJS web application** from **scratch to production** for NAB bankers utilising AWS services. Heavily involved as a Quantitative Trader hobbiest developing **Recurrent Neural Network models** for predictive analysis.

Education

The University of Melbourne	*Melbourne,VIC,Australia*

M.Eng, Major:Electrical Engineering, specialising in Optimisation and Machine Learning   *Jan 2019- December 2020*

- WAM:81.6% , First Class Honours
- Thesis: Optimal path-planning/following for Autonomous Vehicles using Partial Environment Information
- Award: - 2nd-place People's Choice Award. (/182 Final Year teams)
          - 3rd-place Road to Endeavour Award. (/182 Final Year teams)

B.S, Major: Electrical Engineering   *February 2016-December 2018*

- WAM:76.1% , Second Class Honours Division A

Exchange Program	*Los Angeles, USA*

University of California, Los Angeles   *September 2017-June 2018*

- Technical GPA:3.12

Work Experience

National Australia Bank

- **Associate Cloud (Software) Engineer – Business Lending**   *01/06/2021 - Present Full-Time*
- **Junior Cloud (Software) Engineer – Business Lending**   *11/01/2021-01/06/2021 Full-Time*
    - Full-stack web application development using Backend For Frontend(BFF) alongside DevOps role and Unit Testing using ReactJS, Typescript, GraphQL,PostgresQL, Jest, Enzyme.
    - Built 3 production ready web applications used by all bank branches in Australia.
    - Setup CI/CD Jenkins pipeline infrastructure for app deployment integrating quality checks such as SonarQube, Checkmarx and Deputy.
    - Mentored external contractors (Accenture & DXC) NAB-specific UI development.
    - Completed internal 2 week hackathon building app on house price evaluation using Machine Learning (Convolutional Neural Network) based on current housing market features (No.Rooms, carspace, proximity to facilities etc.).
    - Full stack developer confident in ReactJS, AWS infrastructure hosting, serverless and scalable solutions (e.g. ECS, DynamoDB, autoscaling etc).

Jacobs Engineering Consultancy   *26/11/2019- 21/02/2020 Full-Time*

- **Undergraduate Electrical Engineer (Rolling Stock)**   *22/02/2020-01/11/2020 Part-Time*
    - Assisted in a 200k life extension project for V/Line in data analysis for fault finding and providing recommendations to the client.
    - Worked on a $600 billion dollar project for Victorian Government 2050 metro vision procuring rolling stock(trains) in a consortium of 4 engineering consultancies and government agency.
    - Time-managed 4 concurrent projects ensuring deadlines are met.
    - Prepared 5 final reports for clients in a span of 3 months.
    - Independent on site-visit to client to inspect project progression and updates.

Commonwealth Scientific and Industrial Research Organisation (CSIRO)   *19/11/2018-01/03/2019*

- **Vacation Student Researcher - InterFloat**
    - Develop & test capacitive sensing method to measure properties of mineral solution within the flotation unit.
    - Use SPICE simulation to develop circuits, Schematic design & PCB layout for test.
    - Laboratory based circuit assembly & practical test.

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Project Design

Building a ReactJS App hosting on AWS – Workshop   *2021 working at NAB*
- Designed and taught a ReactJS workshop to University students teaching them how to create web app and host on AWS using AWS services specifically S3, DynamoDB, Elastic Load Balancer, Elastic Container Service.

Optimal path-planning for autonomous vehicles using partial information   *Capstone 2020*
- Develop novel advanced control strategies(via machine learning) for autonomous driving (minimise lap time, power consumption, and guarantee collisions avoidance) with partial information of the environment.
- Real-time collision avoidance for static and dynamic obstacles using Mixed-Integer Quadratic Programming.
- Object Identification
- Designed novel optimisation-based controller using SLAM (Simultaneous Localisation and Mapping) that ensures real-time optimal car maneuvering, speed, and safety.

Algorithmic Trading U.S Market Equity Strategy   *Year-long Personal Project 2020-2021*
- Research/develop/test trading strategies using signal indictor and Neural Network models. Backtesting strategies on BackTrader platform in Python with a sharpe ratio of 1.2 .

AI Planning for Autonomy   *Semester 1 2020*
- Developed full autonomous agent with 3 other students for Pac-man game that ensures completion based on time/score/ghost avoidance.

Measuring froth depth in flotation units   *Summer Internship 2019*
- **Research Assistant**-develop & test capacitive sensing. **Schematic design & PCB layout** for test. **Written Report** describing work and outcomes. **Verbal presentation** describing results and experience.

Exoskeleton   *Semester 2 2018*
- Student-based **proof of Concept** designing light-weight and Inexpensive exoskeleton that assists human body movement and **research** into human mechanisms in order to provide assistance efficiently.

Controller for Self-driving Car   *Spring Quarter 2018*
- Designed a controller that allows a model car to adjust its position relative to its projected position in order to stay in track (**lane keeping**).

Speech Classification   *Fall Quarter 2017*
- Designed a deep neural network algorithm that detects, trains, and predicts audio signal speech recognition of male/female voices with **99.4% accuracy**.

Technical Skills

Frontend Tech Stack
- HTML, CSS, JavaScript, Typescript, ReactJS, React Native, Jest, Enzyme

Backend Tech Stack
- Python,Pandas, Java, C, SQL, MATLAB, TensorFlow, Sagemaker, Keras, DynamoDB, NoSQL, PostgreSQL, EC2, S3, GraphQL

DevOps Tech Stack
- Jenkins, Docker, ECS, Kong, Nginx

Hardware
- FPGA, PCB Design, Soldering PCB & Dev board, Microchip SAM C MCU, Arduino Uno, Raspberry Pi

Amazon Web Services (AWS) Certification
- Machine Learning - Specialty
- Solutions Architect - Associate
- Cloud Practitioner

Leadership & Extra-Curricular

Coffee Appreciation for Enthusiasts – Social Media Director   *09/2019-Present*
- Managing society's social media accounts with weekly posts on events and meetups whilst directing 2 supporting officers.

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References

Satbir Singh
Engineer Manager
National Australia Bank
700 Bourke St, Melbourne

Work:+61 426219200
Email: satbir.singh@nab.com.au

Luke Gibbons
Senior Rolling Stock Engineer
Jacobs Engineering
452 Flinders St, Melbourne

Work:+61 402316692
Email:Luke.Gibbons@jacobs.com

Joseph Tey
Associate Engineer
National Australia Bank
700 Bourke St, Melbourne

Work: +61 490026896
Email: joseph.tey@nab.com.au

Tim Buchanan
Principle Rolling Stock Engineer
Jacobs Engineering
452 Flinders St, Melbourne

Work: +61 409225677
Email:tim.buchanan1@jacobs.com