New Taipei City
Taiwan

BEI-JIA REBECCA LAI

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EDUCATION

Bachelor of Science **The University of Melbourne** **Jan 2020 - Dec 2022**

- Major: Computing and Software Systems, Weighted Average Mark: 87.375
- Awards: Dean's Honors List in 2021, Melbourne International Undergraduate Scholarship in 2022
- Relevant Coursework: Algorithmic Trading, Artificial Intelligence, Computer Systems, Data Analysis, Declarative Programming, Design of Algorithms, Foundations of FinTech, Investments, Machine Learning, Models of Computation, Object-oriented Software Development, Probability, Software Modelling and Design

WORK EXPERIENCE

Computing Demonstrator **The University of Melbourne** **Jul 2022 - Nov 2022**

- Conducted weekly drop-in sessions for the Foundations of Computing course, introducing students to Python
- Assisted in marking mid-semester and final exams, providing accurate and constructive feedback to students

Programming Tutor **Apr 2021 - Dec 2021**

- Tutored a postgraduate student in C programming using a lesson plan tailored to address their specific needs

PROJECT WORK

Recipe Book **Aug 2022 - Oct 2022**

- Led the development of the back-end system using Next.js, Firebase Authentication, and Cloud Firestore
- Collaborated with the front-end team to integrate user interface and back-end functionality seamlessly
- Completed the project within three sprints using Agile methodology, meeting expectations and timelines

Trading Bot **Aug 2022 - Sep 2022**

- Developed a trading bot using Python to optimize portfolio performance on the FlexEMarkets platform
- Automated trade executions for reactive and proactive portfolio management based on market conditions
- Utilized the FMClient library to interact with the platform and the NumPy library for performance calculations

Game-Playing Agent **Apr 2022 - May 2022**

- Designed and implemented an agent using Python for the Cachex game, a variant of the Hex board game
- Utilized the Minimax algorithm with Alpha-Beta pruning to optimize move exploration within the time limit
- Improved the agent's efficiency by introducing instant win/loss checks and a strategic move exploration order
- Achieved an average win rate of 85% against opponents using various strategies, including Random Moves, Greedy Moves, Vanilla Minimax, and Monte Carlo Tree Search

Campus Navigator **Jul 2019 - Nov 2019**

- Built a web application using Python Flask to display the optimal route on the high school campus map
- Applied Dijkstra’s algorithm to find the shortest path from the user's location to their desired destination
- Received a Scholarship in Technology from the New Zealand Qualifications Authority in 2019 for the project

SKILLS

- Technical: Proficient in C and Python, Familiar with Haskell, Java, Prolog, and SQL
- Languages: Bilingual in Mandarin (native proficiency) and English (IELTS Academic Band Score of 8.5)