

Jackie Cai

EXPERIENCE

Macquarie Bank

Feb. 2023 – Present

Software Engineer L1 - (Rotation 1) Macquarie Trading System, Rates | C++, Python, SQL

Sydney, NSW

- Optimized financial data accuracy by developing a high-performance C++ class that reduced noise in curve data by 15%, leveraging algorithmic approximation to improve reliability in a low-latency trading system
- Automated data validation by implementing a C++ verification system that ensured correct migration from legacy to new data systems, eliminating a 1-hour manual process and reducing developer testing overhead
- Utilized Python and SQL queries to parse database usage and permission sets, identifying and decommissioning 15 obsolete databases during a large-scale platform migration, reducing infrastructure costs

Software Engineer L2 - (Rotation 2) Digital Loan Origination | Java, Docker, Kubernetes, Spanner

- Architected and implemented a robust calculation microservice, processing over thousands of calculations for a high-traffic home loan platform with inherent failover and high availability. Leveraged Docker, GCP, Java, and Spanner to optimize performance
- Developed automated test suites using JUnit & Cucumber to validate API & microservice functionality for the Automated Credit Engine's distributed backend system, improving reliability and error resilience
- Enhanced system durability & orchestration by integrating Temporal (a workflow engine for distributed systems) into the Automated Credit Engine, ensuring fault-tolerant execution in a highly available financial platform
- Led cloud migration of Bitbucket repositories, implementing Docker & Kubernetes for containerized deployments, improving scalability and CI/CD efficiency in a cloud-native environment

PricewaterhouseCoopers (PwC) Australia

Nov. 2021 – Feb. 2022

Indirect Tax Technology Intern

Sydney, NSW

- Led a team of 6 interns in a design and innovation competition, placing top 4 out of 16 teams by presenting data-driven UX/UI solutions to a panel of OzHarvest industry judges
- Ensured data integrity and compliance by collaborating on tax documentation for 20+ clients, meticulously verifying financial records for accuracy
- Automated customer data analysis using Excel macros and regex, processing insights for 200+ clients to support business decisions

TECHNICAL SKILLS

Languages: C/C++, HTML/CSS/JavaScript, Java, Python, SQL, Typescript

Frameworks: Flask, JUnit, Node.js, React.js

Developer Tools: CI/CD (Jenkins/Git), Docker/Kubernetes, Cloud (GCP), Linux, Spanner

EDUCATION

University of New South Wales (UNSW) Sydney

Feb. 2019 – Jan. 2023

Bachelor of Science in Computer Science and Bachelor of Economics in Econometrics

Sydney, NSW

- Courses: OOP in Java, Data Structures & Algorithms, Operating Systems, Networks, and Statistics
- Graduated with Distinction
- Recognized by UNSW Co-op Program and granted the Graduate Advantage Program (GAP)

PROJECTS

PortfolioDex | Typescript

[GitHub](#)

- Designed a Pokemon-themed Portfolio to display skills, education and projects in Typescript

Protask: A Task Management System | Python, React.js, CSS, Flask, SQLAlchemy

[GitHub](#)

- Collaborated with 3 students to develop a Python-Flask backend for a task management system, enabling users to search, post, and assign tasks to other users in their network
- Designed a fast, responsive web app with a seamless UX/UI using React.js and CSS
- Made a relational database with SQLAlchemy to store user data such as authorization and tasks

Slackr: Slack Clone | Python, JavaScript, REST API

[GitHub](#)

- Managed a team of 4 to develop a backend system for a messaging app, implementing user authorization, channel functionality, messaging API and storing user data using Python
- Integrated the backend and front-end for seamless communication between components and UI