Wang Liao

📞 0433410326 ✉ wang.liao.au@gmail.com 🔗 linkedin.com/in/wangliao-au ⭘ github.com/wangliao-au

PROFESSIONAL EXPERIENCE

Graduate Quality Engineer   Jan 2024 – Present
Tyro Payments   *Sydney, Australia*

DevOps & CI/CD:

- Managed QE team DevOps operations, including Tooling, UI Automation, API Automation repositories deployment into **Kubernetes** clusters, with **Terraform**, **Vault**, **ArgoCD**, **Helm**, **BuildKite**, and **GitHub Actions**. Monitored pod logs & metrics with **Grafana** and debugged using **kubectl**.
- Led QE team **CI/CD** pipeline migration from **Buildkite** to **GitHub Actions**. Customized and established Build & Release steps with reusable workflows provided by Platform team.
- Implemented a script to upload **Playwright** test results to **AWS S3 Bucket** with **S3 Client** & **AWS STS**. Automated credential fetching with **Kubernetes** pods Role Arn & Identity Token File.
- Optimized **Dockerfile** for robust container launches, reducing image size and ensuring security compliance. Monitored container CPU/MEM usage within limits during local testing.

Testing Tools

- Upgraded in-store transaction creation CLI tool with **TypeScript** & **Yargs** to advance transaction schemes. e.g. **VISA**, **Mastercard**, **Epal**, **Amex**, and **JCB** for **Go** & **BYO** EFTPOS terminals. Featured **AWS Signature V4 Authentication** to improve security and compatibility.
- Created e-commerce transaction creation tool with **React**, **TypeScript**, **HTML**, **TailwindCSS**, MUI, **Koa.js**, **Node.js**, adhering to **MVC** framework. Enabled testers to create transactions across multiple card schemes and integrated health-check features for downstream status verification.
- Engineered test data generation tool. Utilized **ABN Lookup API** & **Mailosaur API** to streamline **Salesforce** customer onboarding process by enabling testers to generate real-world test data.
- Built a fully responsive internal QE website using **NextJS**, incorporating light/dark themes, site search, **MDX** upload, blog, documentation, etc. Showcased at **Apr 2024 Sydney Testers In-Person Meetup**.

Web UI Automation

- Maintained **4+** major UI Automation repositories, including **Salesforce**, **Customer On-boarding**, **Banking**, **Merchant Portal**, etc. Facilitated stakeholder communication and maintained patch code-base to align with ongoing development changes.
- Enhanced test suites by following **Page-Object** design pattern with **TypeScript** & **Playwright**, resulting in improved test reliability and reduced maintenance overhead.

API Automation & Performance Testing

- Engineered performance load testing for in-store & e-commerce transactions using **Grafana k6**, **TypeScript**, **webpack**, etc. Employed **k6 Batch** to execute parallel multi-scheme transaction requests from multi-merchants, simulating peak load during Christmas to assess system scalability.
- Architected an API Automation framework for testing internal banking APIs with **Kotlin**, **Gradle**, **RestAssured**, **JUnit**, **Gson**, **dotenv-kotlin**, and **ktfmt**. Incorporated advanced features such as tagging, fixtures, test logging, post-scripts with **ktfmtm**, etc.
- Developed daily API Automation cron jobs in **TypeScript** & **Jest** to monitor in-store transactions across dev & staging environments. Validated downstream status with internal reporting API and integrated **Slack Incoming Webhooks** for pass/fail notifications, enhancing real-time monitoring and issue detection.

Mobile Automation:

- Streamlined Android mobile workflows by combining Manual & Automation testing steps with **Espresso**, **Appium**, **ADB**, and **Vysor**. Supported team members with environment setup and troubleshooting.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python, HTML/CSS, HCL, Shell Script, SQL, Kotlin, Java, C++

Testing Frameworks & Tools: Postman, Playwright, Selenium, Appium, Appium Inspector, ADB, REST Assured, JUnit, Jest, Mocha, Cucumber, Robot Framework (BDD)

Development Frameworks: React.js, Next.js, Express.js, Koa.js, FastAPI, Flask, Tailwind CSS, REST API

Cloud: AWS, Kubernetes, Terraform, Docker, GitHub Actions, Buildkite, Grafana, ArgoCD, Linux CLI

Version Control: Git, SVN, GitHub, GitLab, Bitbucket, Gerrit

Project Management: JIRA, Confluence, Agile Methodology, SharePoint

INTERN & PART-TIME EXPERIENCE

Casual Backend Software Engineer   May 2023 – July 2023
Bright OS   *Sydney, Australia*
- Developed highly available and fault-tolerant **Microservices** following **MVC** design pattern, with **REST API**, **Python**, **FastAPI**, **TypeScript**, **Express.js**, **Firebase**, **MongoDB**, **Git**, **JIRA**.
- Implemented automated **CI/CD** pipelines using **Google Cloud**, **Docker**, **YAML**, **Shell Script**, **Bitbucket**. Configured resources and credentials to ensure seamless and efficient deployment processes.
- Migrated repositories from **Flask** to **FastAPI** using **TDD** methodology with type annotations.
- Refined payment processing and SMS functionalities leveraging **Stripe API** & **Twilio API**.
- Developed **45+** API test cases per repository using **Mongomock**, **Pytest Fixtures**, and **Postman**.

Intern Cloud ConX Research & Development   Sep 2022 – Dec 2022
Volvo Cars   *Shanghai, China*
- Contributed to DIM Warning Project, assisting in developing traffic warning data **Middleware** with **Java**, **AWS SQS**, **Spring Boot**, **Maven**, **SQL**, **Python**, **JSON**, **XML**, **Git**, and **JIRA**.
- Utilized **SQL** statements to execute **CRUD** operations in an SSH server hosted in **CentOS Linux**.
- Created data processing scripts with **Python** & **OpenPyXL** to generate **80,000+** compliant vehicle data.
- Developed legal web crawler scripts with **Python** to scrape latitude and longitude data of Chinese cities.
- Documented detected issues and refined solutions on **Confluence** using **Markdown**.

Intern Analytical Validation Engineer (Embedded System QA)   Aug 2022 – Dec 2022
Volvo Cars   *Shanghai, China*
- Participated in PDS Product Navigation Project. Designed and developed **166** automation tests for In-House AutoNavi Map with **Python**, **Appium**, **Robot Framework**, **ADB**, **OpenCV**, **Git**, **Gerrit**, and **JIRA**.
- Developed an image recognition script with **Python** and **OpenCV** to identify distinct reachable ranges.
- Responsible for internal ordering business, contacted colleagues from Sweden and Indonesia offices.
- Updated embedded entertainment system on experimental vehicles by manipulating flashing software.

Intern Software Quality Assurance Engineer   Feb 2022 – May 2022
QAD   *Shanghai, China*
- Participated in CM Service Project. Designed and developed automation/manual tests under an extremely large code base with **Python**, **Selenium**, **SVN**, **One Page Object** pattern, **Unittest**, and **JIRA**.
- Developed **Python** methods based on requirements, added page objects using **One Page Object** pattern.
- Optimized testing process by conducting root cause analysis to drive continuous improvement.
- Maintained comprehensive documentation of issues identified during testing process using **Markdown**.

CERTIFICATION

- AWS Certified Solutions Architect Associate SAA-C03   ID: UC-5c38b5ab-d6ee-44c4-beca-8c846476dbcf
- AWS Certified Developer Associate DVA-C02   ID: UC-208c8c23-2c3b-460f-9535-7ddb13d545f5
- AWS Certified Cloud Practitioner CLF-C01   ID: Q926QBZC6FF1QY3T

EDUCATION

Bachelor of Computer Science   Sep 2020 – Sep 2023
The University of New South Wales   *Sydney, Australia*

- UNSW CSESoc Flagship Hackathon 2023 - Best UI Design Prize
- UNSW CSESoc Project Training Lead
- UNSW CSESoc Development Subcommittee
- UNSW Warrane College Academic Tutor 2023
- UNSW Founders Community Member
- IBM Work Experience Placement 2023

PROJECT EXPERIENCE

Frontend Developer & Cloud Migration   May 2023 – Aug 2023
https://eventstar.netlify.app   *Sydney, Australia*

- Developed a fully responsive cloud-based web app with a team of **5** under Scrum Methodology using **TypeScript**, **React**, **TailwindCSS**, **FastAPI**, **RESTAPI**, and **PostgreSQL**.
- Crafted a seamless UI/UX experience, individually implemented **Authentication, Home Page, Search Page, Host Profile, Referrals, Analytical Dashboard, Survey, etc.** with **M-UI**, **Antd**, **NextUI**.
- Deployed backend on **AWS EC2** instance with pre-built **AMI**, ensuring HTTPS security via **Apache2** configuration and Certbot. Utilized **AWS Route53** to link a public IPv4 address to a customized domain.
- Optimized media loading speed by setting up an **Azure Blob** image server for cloud-based media storage. Ensured production readiness by replicating **PostgreSQL** database and deploying frontend via **Vercel**.
- Enhanced user experience by accurately detecting and utilizing user location for precise event filtering based on proximity by integrating **Geocoding API** & **Google Maps API** into Search Page.

REFEREES

- Alex Perrottet, Dean, Warrane College UNSW
- Daniel Yang, Intelligent Cockpit Team Manager, Volvo Cars
- Lubin Shen, ConX Cloud Team Product Owner, Volvo Cars
- Lihui Ge, QA Specialist, Standard Chartered Bank

Further contact details can be provided upon request