Lim Jia Jing

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Portfolio Website: | https://limjiajing.com

| Singapore Permanent Resident | Availability: TBD |

SUMMARY

Aspiring Software Engineer with hands-on experience in full-stack web and robotic systems development, cloud deployment, and both automated and manual testing for Web, iOS, and Android applications in the banking and finance sector. Eager to build impactful, user-centric applications that bridge software with real-world needs.

INTERNSHIP & WORK EXPERIENCE

Cognizant Technology Solution/United Overseas Bank   JUNE 2024 – Present
Graduate Analyst (Automation Software Tester) (Banking Financial Services, UOB)

- Automated progression, regression, smoke, sanity, system, and usability testing for critical banking applications using Tosca, ensuring consistent quality across releases.
- Conducted functional and non-functional testing on B2B and B2C platforms (iOS, Android, Web, AS400) for apps such as TMRW and UOB Infinity, using physical devices, Perfecto, Postman, Oracle SQL (for backend validation and log analysis), and SSH (PuTTY/WinSCP).
- Deployed defect-fixed builds from SIT to UAT environments using Jenkins, improving CI/CD pipeline efficiency and accelerating validation cycles in a secure banking infrastructure.
- Created and executed test cases with Zephyr for Jira, ensuring end-to-end traceability, test coverage, and alignment with Agile user stories.
- Ensured full compliance with banking processes, industry standards, and security requirements during manual and automated testing of high-stakes financial systems.
- Collaborated with developers, business analysts, and QA teams using Jira and Confluence to track defects, document processes, and improve software quality through continuous feedback loops.
- Actively participated in the SDLC Agile sprint process, with hands-on involvement across the entire STLC, including requirement analysis, test planning, execution, defect reporting, and test closure.

ST Engineering Land Systems   JAN 2023 – AUG 2023
Robotics Software Intern

- Developed robotics software in C++, Python, and Golang, contributing to autonomous robot navigation using ROS 1/2, SLAM systems.
- Integrated and customized SLAM algorithms (Cartographer, Gmapping) by ingesting Velodyne LiDAR data, using Wireshark to verify and troubleshoot sensor-level network communication. Developed data-processing functions to optimize and format point clouds for accurate 2D/3D mapping.
- Created RViz plugins and utilities allowing users to interactively define virtual map boundaries, generating dynamic point cloud walls to confine robot navigation within user-defined zones.
- Extracted and processed IMU data (heading, roll, pitch, yaw) for the SPYDER hull-climbing robot, integrating readings into ROS and visualizing live orientation in RViz for real-time feedback and client demonstration.
- Developed Go executables and containerized multiple microservices (e.g., GUIAPI, MySQL, FleetAPI, health checks) into Docker images and containers with static IPs on a private Docker network, enabling secure and reliable inter-service communication.
- Integrated industrial servo motors with robotic controllers and designed a detailed wiring diagram documenting electrical connections, ensuring precise hardware control, safe deployment, and effective troubleshooting.

TECHNICAL SKILLS

Programming Language: Python, C++, C, Golang, Java, JavaScript, SQL
Frameworks & Libraries: ReactJS, .NET, SpringBoot, Pandas
Cloud & Devops Tools: AWS, Docker, Terraform, Jenkins
Tools & Platforms: Linux, Windows, ROSI&II, Git, GitHub, Jira, Confluence, Postman, Putty, Figma, Tosca, Postman, Microsoft Office
CAD & Design Tools: SolidWorks, Figma
Language: Proficient in English & Chinese; Basic – Malay & Thai

PROJECT WORK

Personal Portfolio Website   Present

- Developed and deployed a React-based portfolio website with an AI chatbot using Express.js for the backend, hosted on AWS ECS.

- Designed a frontend-backend architecture, where the backend handles API calls to OpenRouter for chatbot(DeepSeek) responses.
- Built a secure AWS infrastructure with a VPC, private subnets for ECS tasks, an ALB for frontend traffic routing, and VPC endpoints for ECR image pulling without a NAT.
- Configured a NAT instance to allow backend ECS tasks to access external APIs while maintaining private network security.
- Automated CI/CD using GitHub Actions, building Docker images, pushing them to AWS ECR, and deploying via ECS.
- Optimized performance with Styled-Components, React's component-based design, and efficient asset management.

Rehabilitation Research Institute Of Singapore (RRIS) & Nanyang Technological University
Undergraduate Student Researcher (Robotic Software Engineer)   AUG 2023 - MAY 2024
Final Year Project Title: Evaluating Navigation Among Crowds Algorithm For Shared Control Of A Robotic Wheelchair (Grade: A) in C++ and Python

- Surveyed existing autonomous navigation among crowd algorithms.
- Modified existing algorithm modified for shared control and integrated it to physical wheelchair and in simulator evaluating its performance by scripting for data collection and evaluation.
- Created and modified GUI and visualization tool in Rviz to showcase the effects of the algorithm.
- Make recommendations for the best algorithm to use for shared control amongst crowd.
- Creation of a pipeline to test shared control amongst crowd algorithms in simulator.
- Proven that Navigation Among Crowd Algorithm that considers dynamic obstacle is unnecessary.

Machine Intelligence (Nanyang Technological University)   JAN 2024 – MAY 2024
Project title: Product Development Strategies for Vehicle Customisation & Personalisation

- Collected and analyzed market survey data (n=50) on vehicle customization preferences using Python, Pandas, and data visualization libraries.
- Performed K-modes clustering to segment customers based on demographic and behavioral patterns, identifying key user personas for personalization strategies.
- Built a Multinomial Naive Bayes predictive model to forecast customization likelihood, contributing to more accurate targeting in product development.
- Applied Association Rule Mining (e.g., Apriori algorithm) to uncover cross-preference patterns, generating actionable insights to support data-driven marketing and design decisions.

RealTime Software for Mechatronics System (Nanyang Technological University)   JAN 2024 – MAY 2024
Project title: Waveform Generator in C programming Language

- Developed a real-time waveform generator in C for oscilloscope visualization, implementing precise D/A output control for waveform accuracy and signal fidelity.
- Designed and integrated multi-threaded processes, timers, and interrupts to enable real-time system responsiveness and continuous waveform output.
- Built interactive CLI and keyboard input handling for runtime waveform configuration, including user-defined parameters via command-line arguments.
- Implemented support for loading arbitrary waveform data from disk to enhance signal variety and system flexibility.
- Applied robust file I/O, input validation, and modular programming, ensuring maintainable code structure and clean program shutdown through signal handling and inter-process communication.
- Delivered synchronized visual and auditory feedback, ensuring a seamless real-time user experience across multiple hardware outputs.

EDUCATION

NANYANG TECHNOLOGICAL UNIVERSITY, SINGAPORE   AUG 2020 - MAY 2024
- Bachelor of Engineering (Honours Distinction), Mechanical Engineering Specialisation in Robotics and Mechatronics

ACHIEVEMENTS / AWARD / HONOURS

- Recipient of Intern @ ST Engineering Award   AUG 2023
- The Intern @ ST Engineering Award recognises the efforts and accomplishments of outstanding interns.

LEADERSHIP EXPERIENCE / CO-CURRICULAR ACTIVITIES / COMMUNITY SERVICES

Table Tennis (Nanyang Technological University, Hall 12)   JAN 2021 – JAN 2022
Captain
- Orchestrated weekly training sessions, maintaining discipline and fostering a collaborative learning environment for a team of 20 - 30 individuals.

Basketball (Riverside Secondary School)   JAN 2012 – DEC 2015
Captain

- Conducted weekly training and ensured discipline for a total of 60 people.
- Planned and organised cohesive events for strengthening of bond within the team.
- Led team to participate in North Zone Basketball competition for 4 years.