

Adi Nata

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[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

EXPERIENCES

Vital Thin Film Materials, Software Engineer

Apr 2024 - Present

- Engineered web application (React, Node, PostgreSQL) and Qt C++ desktop tools for MES process monitoring and documentation, reducing affected manufacturing process time by 8% while improving data reliability compared to manual job traveler.
- Led planning, configuration, and deployment of new server room and network infrastructure (router and firewall routing, wireless heatmap, network policies), which were crucial for manufacturing and administrative operations.

Continental Automotive, Embedded Software Engineer

Feb 2023 - Mar 2024

- Designed and developed high-performance C/C++ network communication library enabling secure HTTP and MQTT connections between vehicle firmware and client servers.
- Implemented corresponding unit tests in Google Test (Gtest), achieving 98% of line coverage and 99% of branch coverage, ensuring code reliability.
- Improved and automated the firmware build process by improving the CMake command and creating suitable bash scripts. Overall, compilation and building time reduced from 15 minutes to 5 minutes.

National University of Singapore, Research Assistant

Jan 2022 - Jun 2022

- Developed a convolutional neural network (CNN) model to detect malaria cell infections in microscope images using TensorFlow, OpenCV, and scikit-learn, achieving 91% accuracy and 95% precision.

Workforce Optimizer Pte Ltd, Business Analyst Intern

Jun 2021 - Dec 2021

- Enhanced APIs to forecast clients' manpower demand using the Python Keras LSTM model, based on their past PostgreSQL database data, reducing RMSE from 3.4 to 1.2 manpower compared to the previous statistical model.

National University of Singapore, Teaching Assistant

Jun 2020 - Jun 2022

- Taught C programming fundamentals to over 200 students and earned an average student rating of 4.7/5.

Wiridis Pte Ltd, Full Stack Developer Intern

Nov 2020 - Jan 2021

- Designed reusable frontend components, such as buttons, layout, and graphs with Nuxt, Vue, and Sass.

IB Super, Physics Tutor

Jan 2019 - Dec 2021

- Provided personal tutoring for Physics IB students, improving students' grades by an average of 2.3 points.
- Improved student satisfaction rate by 5% by implementing a summary tool for tuition sessions in Python using Chat GPT API and Telegram Bot.

PROJECTS

Laser Tag

Mar 2022 - Jun 2022

- Developed a multiplayer laser tag system using Python and C, integrating IoT devices with a real-time game server with secure SSH-tunneled TCP connections.

BestFit

May 2020 - Jun 2020

- Built an online apparel platform with React, Express, MongoDB, Node, AWS S3, and Stripe API with integration with Python sklearn size-recommendation models.

EDUCATION

National University of Singapore (NUS), Bachelor of Engineering

Aug 2019 - Dec 2022

- Major: Computer Engineering.
- Minor: Financial Mathematics.
- CAP: 4.17/5 (Second Class Honors).

TECHNICAL SKILLS

Programming Languages: C, C++, Python, JavaScript, TypeScript, C#, Java.

Web development: React, Node, Express, Vite, Vue, Next, HTML, Tailwind CSS.

Database: PostgreSQL, MongoDB.

DevOps: GitHub Actions, Vercel, Docker, Kubernetes, AWS (VPC, EC2, S3, Lambda).

Tools: Git, Ngrok, Nginx, Linux, CMake, Make, Gtest.

LANGUAGES

English (Fluent), Indonesian (Native), Malay (Native), and Mandarin (Conversational).