Marlon Martin

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Portfolio: decimomartin.vercel.app **GitHub**: github.com/decimozs **LinkedIn**: linkedin.com/in/decimomartin

Projects

Binspire | *RRV7 (Remix), Pi 4, TypeScript, Hono, MQTT, WebSocket, PostgreSQL, Docker, AWS* December 2024 – Present

- Built a full-stack IoT solution for Arcovia City, utilizing **Raspberry Pi** and **HC-SR04 sensors** to track waste levels via MQTT and WebSocket, significantly improving sustainability through data-driven collection scheduling.
- Revolutionized waste management by **optimizing collection routes** and **reducing operational costs**, leading to improved environmental sustainability.

Hiraya | *TypeScript* December 2024

- Designed and implemented a **Filipino-inspired programming language** to explore core concepts of language design, syntax parsing, and compiler construction.
- Developed a custom programming language as part of a deep study into programming language fundamentals, showcasing expertise in compiler implementation and abstract machine design.

Predicting Carbon Monoxide Levels | *Python, UCI, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn* July 2024

- Developed a **Random Forest model** in **Python** using **Scikit-learn, Pandas, and NumPy** to accurately predict carbon monoxide levels from environmental sensor data, enhancing real-time air quality monitoring capabilities.
- Conducted comprehensive data analysis and machine learning modeling, leveraging **Matplotlib** and **Seaborn** for visualization, to forecast CO levels, significantly **improving prediction accuracy** and providing crucial insights for public health initiatives.

Decimo AI | *JavaScript, React, Vite, Express, Node.js, OpenAI* January 2023

- Developed **Decimo AI**, a full-stack web application featuring an intelligent chatbot powered by **OpenAI's Large Language Model (LLM)**, built using **React, Node.js, and Express.js** for dynamic user conversations.
- Engineered an interactive conversational AI solution, integrating **OpenAI's LLM** with a **React** frontend and **Node.js/Express.js** backend to facilitate dynamic and natural language user interactions.

Skills

Languages: C++, Java, Python, Go, JavaScript, TypeScript, PHP, SQL
Libraries & Frameworks: Express.js, Hono.js, Node.js, FastAPI, DrizzleORM, Prisma, tRPC, Next.js, RRV7 (Remix)
Tools & Platforms: Linux, Neovim, AWS, Git, GitHub, MySQL, PostgreSQL, Redis, Grafana, Prometheus, MQTT, Docker, WebSocket, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, Raspberry Pi 4

Experience

Software Developer | *Freelance – Remote* June 2024 – Present

- Built and deployed a **scalable e-commerce platform** leveraging **TypeScript, Next.js, and Supabase**, providing a secure and seamless user experience.
- Engineered robust **Role-Based Access Control (RBAC)** by implementing server-side middleware for dynamic permission verification and integrating **Drizzle ORM** with Supabase for secure, authenticated data management.
- Developed a **disaster management system** for a local Barangay using native PHP, streamlining emergency response coordination and community reporting capabilities.

CCS Academic Competition Java Programming | *Participant* February 2023

- Solved 3 out of 4 problem sets in my university Java programming contest during the first year.

Education

Pamantasan ng Lungsod ng Pasig June 2022 – Present
Bachelor of Science in Information Technology
Coursework: Data Structures & Algorithms, Object-Oriented Programming, Integrative Programming, Database Systems, Discrete Mathematics, Information Security & Assurance, Software Engineering, System Integration and Architecture
Awards:

- Dean's List Academic Achievement Awardee (3x)

Rizal High School March 2020 – March 2022
Information Communication and Technology - Programming
Awards (Case Study):

- 1st Place – Best System Presenter
- 1st Place – Best System Design
- 1st Place – Best System Functionality
- 1st Place – Overall Best System