

Marlon Martin

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

Projects

- Binspire** | *TypeScript, Python, Raspberry Pi 4, PostgreSQL, AWS, HiveMQ, Nginx, Hono* – [Live URL](#) December 2024
- 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, Lexical Analysis, AST, Syntax Parsing, Compiler Design* 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.
- ART** | *Java, DSA, Time Complexity Analysis, Benchmarking, CLI* September 2023
- Developed a **command-line interface (CLI) tool** for benchmarking and comparing performance of various algorithms.
 - Implemented **execution time measurement, profiling and efficiency analysis** to evaluate algorithmic complexity in practice.
- 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, Flask, Drizzle ORM, Prisma, tRPC

Data & Machine Learning: Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, OpenAI

Tools & Platforms: AWS, Git, GitHub, Linux, Bun, Firebase, MySQL, PostgreSQL, HiveMQ, Docker, Neovim, Raspberry Pi 4, Nginx

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.
- Open-Source** | *Developer & Contributor* January 2023 - Present
- Contributed to multiple community-driven projects on GitHub, enhancing open-source software.
- 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:**
- President's List Academic Achievement Awardee
 - Dean's List Academic Achievement Awardee
- 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