Marlon Martin

Pasig City, Philippines | marlonadiguemartin548@gmail.com | +63 927 0166 200

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

Projects

Binspire | *TypeScript, Python, Raspberry Pi 4, MQTT, WebSocket, PostgreSQL, AWS, HiveMQ*   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, 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, Bun, FastAPI, Flask, DrizzleORM, Prisma, tRPC
Data & Machine Learning: Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, OpenAI
Tools & Platforms: AWS, HiveMQ, Git, GitHub, Linux, MySQL, PostgreSQL, InfluxDB, MQTT, Docker, Neovim, WebSocket, 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 (4x)

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