

# Marlon Martin

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Portfolio: [decimomartin.vercel.app](https://decimomartin.vercel.app) GitHub: [github.com/decimozs](https://github.com/decimozs) LinkedIn: [linkedin.com/in/decimomartin](https://linkedin.com/in/decimomartin)

## Projects

<b>Binspire</b>   TypeScript, Python, Raspberry Pi 4, PostgreSQL, AWS, HiveMQ, Nginx, Hono	December 2024
- Built a full-stack IoT solution for Arcovia City, utilizing <b>Raspberry Pi</b> and <b>HC-SR04 sensors</b> to track waste levels via MQTT and WebSocket, significantly improving sustainability through data-driven collection scheduling.	
- Revolutionized waste management by <b>optimizing collection routes</b> and <b>reducing operational costs</b> , leading to improved environmental sustainability.	
<b>Hiraya</b>   TypeScript, Lexical Analysis, AST, Syntax Parsing, Compiler Design	December 2024
- Designed and implemented a <b>Filipino-inspired programming language</b> 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.	
<b>Predicting Carbon Monoxide Levels</b>   Python, UCI, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn	July 2024
- Developed a <b>Random Forest model</b> in <b>Python</b> using <b>Scikit-learn</b> , <b>Pandas</b> , and <b>NumPy</b> 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 <b>Matplotlib</b> and <b>Seaborn</b> for visualization, to forecast CO levels, significantly <b>improving prediction accuracy</b> and providing crucial insights for public health initiatives.	
<b>ART</b>   Java, DSA, Time Complexity Analysis, Benchmarking, CLI	September 2023
- Developed a <b>command-line interface (CLI) tool</b> for benchmarking and comparing performance of various algorithms.	
- Implemented <b>execution time measurement, profiling and efficiency analysis</b> to evaluate algorithmic complexity in practice.	
<b>Decimo AI</b>   JavaScript, React, Vite, Express, Node.js, OpenAI	January 2023
- Developed <b>Decimo AI</b> , a full-stack web application featuring an intelligent chatbot powered by <b>OpenAI's Large Language Model (LLM)</b> , built using <b>React</b> , <b>Node.js</b> , and <b>Express.js</b> for dynamic user conversations.	
- Engineered an interactive conversational AI solution, integrating <b>OpenAI's LLM</b> with a <b>React</b> frontend and <b>Node.js/Express.js</b> 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

<b>Software Developer</b>   Freelance – Remote	June 2024 – Present
- Built and deployed a <b>scalable e-commerce platform</b> leveraging <b>TypeScript</b> , <b>Next.js</b> , and <b>Supabase</b> , providing a secure and seamless user experience.	
- Engineered robust <b>Role-Based Access Control (RBAC)</b> by implementing server-side middleware for dynamic permission verification and integrating <b>Drizzle ORM</b> with <b>Supabase</b> for secure, authenticated data management.	
- Developed a <b>disaster management system</b> for a local Barangay using native PHP, streamlining emergency response coordination and community reporting capabilities.	
<b>Open-Source</b>   Developer & Contributor	January 2023 - Present
- Contributed to multiple community-driven projects on GitHub, enhancing open-source software.	
<b>CCS Academic Competition Java Programming</b>   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):

- 1<sup>st</sup> Place – Best System Presenter
- 1<sup>st</sup> Place – Best System Design
- 1<sup>st</sup> Place – Best System Functionality
- 1<sup>st</sup> Place – Overall Best System