

# 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, IoT, MCP, PostgreSQL, AWS, HiveMQ, Nginx, Hono – <a href="#">Live URL</a>	October 2023 – Present
- Engineered an <b>IoT-enabled waste management system</b> for Arcovia City that provides real-time trash bin monitoring, live tracking of collection activities, object detection, and QR-code based collection verification using Raspberry Pi, HC-SR04 sensors, MQTT, and WebSocket <b>optimizing collection routes, reducing operational costs, and improving environmental sustainability.</b>	
- Integrated <b>Binspire AI</b> , an <b>MCP (Model Context Protocol)</b> -powered intelligent chatbot supporting <b>OpenAI, Grok, LLaMA, and DeepSeek</b> , enabling multi-LLM data analysis, automated insights, and smarter decision-making for waste management operations.	
- Achieved <b>1st Runner Up</b> in the <b>IT Olympics – IoT Category</b> , competing against teams from <b>17+ top participating universities</b> .	
<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 language design, syntax parsing, and compiler construction, demonstrating solid expertise in compiler architecture, abstract machine design, and programming language theory.	
<b>Predicting Carbon Monoxide Levels</b>   Python, UCI, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn	July 2024
- Developed a <b>machine learning-powered CO prediction system</b> that analyzes environmental sensor data to forecast carbon monoxide levels with high accuracy, enabling <b>improved real-time air quality monitoring</b> and supporting <b>data-driven public health decision-making</b> .	
<b>ART</b>   Java, DSA, Time Complexity Analysis, Benchmarking, CLI	September 2023
- Implemented <b>execution time measurement, profiling and efficiency analysis</b> to evaluate <b>algorithmic complexity</b> in practice.	
<b>Decimo AI</b>   JavaScript, React, Vite, Express, Node.js, OpenAI	January 2023
- Built an interactive conversational AI solution, integrating <b>OpenAI's LLM</b> with a React frontend and Node.js/Express.js backend to facilitate <b>dynamic and natural language user interactions</b> .	

## 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, Digital Ocean, Git, GitHub, Linux, Bun, Firebase, MySQL, PostgreSQL, HiveMQ, Docker, Neovim, Raspberry Pi 4, Nginx, MCP (Model Context Protocol)

## Experience

<b>14<sup>th</sup> IT Skills Olympics</b>   Participant (Team Leader)	November 2025
- Led the Binspire project, an <b>IoT-enabled waste management system</b> , which won <b>1st Runner-Up</b> at the <b>14<sup>th</sup> IT Skills Olympics</b> , demonstrating real-time data monitoring, route optimization, and backend scalability.	
<b>Software Developer</b>   Freelance – Remote	June 2024 – Present
- Designed and implemented secure server-side RBAC middleware, enabling dynamic permission validation and <b>improving backend authorization reliability</b> across multiple services.	
- Developed and deployed a <b>scalable e-commerce platform</b> with TypeScript, Next.js, and Supabase, <b>focusing on API design, database modeling, and performant server-side operations</b> .	
- Built a <b>disaster management system</b> for a local Barangay using native PHP, optimizing backend data processing, incident logging, and emergency response workflows.	
<b>CCS Academic Competition</b>   Participant	February 2023
- Solved <b>3 out of 4</b> problem sets in my university Java programming contest during the first year.	
<b>Open-Source</b>   Developer & Contributor	January 2023 – Present
- Contributed to multiple community-driven projects on GitHub, enhancing open-source software.	

## Education

<b>Pamantasan ng Lungsod ng Pasig</b>	June 2022 – Present
<i>Bachelor of Science in Information Technology</i>	
<b>Awards:</b>	
- President's List Academic Achievement Awardee	
- Dean's List Academic Achievement Awardee	
<b>Rizal High School</b>	March 2020 – March 2022
<i>Information Communication and Technology - Programming</i>	
<b>Awards (Case Study):</b>	
- Overall – Best System Presenter	
- Overall – Best System Design	
- Overall – Best System Functionality	
- Overall – Best System	