# 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
- Engineered an **IoT-enabled waste management system** 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 **optimizing collection routes**, **reducing operational costs**, and **improving environmental sustainability**.

**Hiraya** | *TypeScript, Lexical Analysis, AST, Syntax Parsing, Compiler Design*         December 2024
- Designed and implemented a **Filipino-inspired programming language** to explore language design, syntax parsing, and compiler construction, demonstrating solid expertise in compiler architecture, abstract machine design, and programming language theory.

**Predicting Carbon Monoxide Levels** | *Python, UCI, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn*         July 2024
- Developed a **machine learning–powered CO prediction system** that analyzes environmental sensor data to forecast carbon monoxide levels with high accuracy, enabling **improved real-time air quality monitoring** and supporting **data-driven public health decision-making**.

**ART** | *Java, DSA, Time Complexity Analysis, Benchmarking, CLI*         September 2023
- 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
- Built 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

**14th IT Skills Olympics** | *Participant (Team Leader)*         November 2025
- Represented the institution in the IT Skills Olympics for **Android Development in IoT**, presenting the **Binspire** project and earning **1st Runner-Up** among competitive universities.

**Software Developer** | *Freelance – Remote*         June 2024 – Present
- Implemented robust **Role-Based Access Control (RBAC)** server-side middleware for **dynamic permission verification** and integrating Drizzle ORM with Supabase for **secure, authenticated data management**.
- Built and deployed a scalable crochet e-commerce platform using TypeScript, Next.js, and Supabase**, delivering a secure, high-performance**, and **seamless shopping experience**.
- Developed a **disaster management system** for a local Barangay using native PHP, streamlining emergency response coordination and community reporting capabilities.

**CCS Academic Competition** | *Participant*         February 2023
- **Solved 3 out of 4 problem** sets in my university Java programming contest during the first year.

**Open-Source** | *Developer & Contributor*         January 2023 - Present
- Contributed to multiple community-driven projects on GitHub, enhancing open-source software.

## 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):**
- Overall – Best System Presenter
- Overall – Best System Design
- Overall – Best System Functionality
- Overall – Best System