

David E. Bato-bato

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A motivated and self-taught developer with 2 years of practical experience in Software Development. eager to apply and enhance skills while making meaningful contributions to communities. Skilled in connecting programming with tangible real-world outcomes.

Technical Skills

Languages

- HTML, CSS, JavaScript, Typescript, Python, PHP, C++

Frameworks, Libraries & Databases

- React, Vite, Tailwind, Bootstrap, Node, Express, Flask, Laravel, NextJS, Firebase, Materials UI, ShadCN, SQLAlchemy, Eloquent ORM, Web Sockets and Socket.IO, SQL, NoSQL, MySQL, Sqlite3, Supabase, MongoDB and Firestore Database, Docker, Pytorch, Google Cloud

Version Controller

- Git and Github

Experience

Software developer | CCDO

ElectrifAI- Manila, National Capital Region

October 2024–Present

- Developed a comprehensive web and mobile application aimed at monitoring household electricity consumption in real-time. The web app was built using React and TypeScript, while the mobile app utilized React Native to ensure consistent user experience across platforms.
- Connected the app with an IoT device powered by ESP32, which collects kWh data from household electrical systems and updates real-time consumption data in the Supabase database.

Software Development Co-Lead

Google Developer Students Club, Polytechnic University of the Philippines - Sta. Mesa, Manila

September 2024–Present

- Led the web department in implementing web technologies, including the organization's primary website and backend, to automate tasks and improve efficiency
- Mentored and guided 300+ students in software development by facilitating discussions, sharing insights, and fostering collaboration. Created a supportive environment for idea exchange, skill enhancement, and community growth.

Full-Stack Developer

PUP ICTO- Sta. Mesa, Manila

August 2024–February 2025

- Developed a fully custom-built PUP alumni portal web application. From initial planning to execution, I worked on designing and building the backend infrastructure, ensuring the application's scalability and efficiency.
- Gained hands-on experience in PHP, Laravel, MySQL, and GoDaddy CI/CD Pipelines, deepening understanding of backend development

Education

College

Polytechnic University of the Philippines - Sta. Mesa, Manila

August 2023–Present

Bachelor of Science in Computer Engineering

- Consistent President Lister
- Awarded and currently holding Ched Merit Scholarship – HSSP
- Part of College of Engineering Student Council Special Projects and Academic Affairs A.Y. 2023-2024

Other Projects

Alertech Technologies

(React Native CLI, React, Firebase, ESP32 with DHT22 & MQ-2 Sensors)

- Developed an integrated fire detection and alert system combining a mobile app, a web dashboard, and an IoT device.
- Engineered IoT firmware on the ESP32 for real-time environmental monitoring (temperature, humidity, smoke) using DHT22 and MQ-2 sensors.
- Implemented mobile alerts via Firebase Cloud Messaging, ensuring instant notifications to users and fire stations.
- Designed a responsive web dashboard with React and Firebase for real-time monitoring and emergency response management.
- Enabled a Bayanihan (Neighbor Alert System) feature to support community safety and empower independent women in home security.

IskoChatAI

(NextJS, TypeScript, Gemini API, Google Cloud, Custom Search API)

- Developed a Filipino language chatbot that leverages Retrieval-Augmented Generation (RAG) to assist college students in the Philippines with scholarship applications, deadlines, and eligibility. Engineered IoT firmware on the ESP32 for real-time environmental monitoring (temperature, humidity, smoke) using DHT22 and MQ-2 sensors.
- Integrated Google Custom Search API to perform real-time web searches, retrieving relevant scholarship-related content from the web to provide up-to-date information.
- Utilized the Gemini API to generate context-aware responses by combining the retrieved web content with the user's query, ensuring accurate and relevant answers.

Chat Application with Sentiment Analysis AI

(MongoDB, Express, React, Node.js, Socket.io, Firebase, Hugging Face Transformers)

- Built a full-featured chat application supporting real-time messaging, user authentication, and group chats using React, Node.js, MongoDB and socket.io.
- Integrated sentiment analysis using a pretrained transformer model from Hugging Face, allowing real-time emotion detection in chat messages.
- Implemented image uploads via Firebase storage and ensured secure authentication using JWT.
- Enabled WebSockets (Socket.io) for real-time chat updates and improved engagement through emotion-based message styling.

GDG XParky Points Backend

(Python Flask, Google Cloud - Classroom, Sheets)

- Developed a RESTful API using Python Flask to automate and manage student participation points, reducing manual tracking efforts by 70%.
- Integrated Google Classroom API to fetch real-time class data, ensuring 99% accuracy in point allocation and student engagement tracking.
- Utilized Google Sheets as a dynamic database, enabling instant data updates and seamless access for event organizers.
- Automated activity logging, cutting down processing time from hours to seconds and significantly reducing human error.

Arduino Day PH 2025 Website

(NextJS TypeScript, React Libraries, Vercel)

- Contributed to the development of the official **Arduino Day PH 2025** website.
- Assisted in deploying the website to the official **Arduino Philippines** site, ensuring a seamless launch and accessibility.

Certifications

AWS Cloud Practitioner Essentials – AWS (March 2025)

- *Fundamentals of AWS cloud computing, architecture, and services.*

Generative AI with Large Language Models – DeepLearning.AI (March 2025)

- *Practical knowledge of LLM development, optimization, fine-tuning, reinforcement learning and AI applications.*

Python Programmer Bootcamp – 365 Data Science

- **Completed an in-depth Python bootcamp covering fundamental to advanced programming concepts, including NumPy, Pandas, and Matplotlib for data analysis.**