

EDWARD ISAAC JUMAWAN

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SUMMARY

Computer Science undergraduate at UP Diliman with a background in competitive programming and research. Experienced in building full-stack applications with CI/CD integration and developing predictive models using Bayesian statistics.

EDUCATION

University of the Philippines - Diliman

August 2025 – Present

B.Sc. Computer Science, College of Engineering

Quezon City, Metro Manila

- *Relevant Coursework:* Elementary Analysis, Discrete Mathematics, Computer Programming, Philosophical Analysis

Philippine Science High School - Central Mindanao Campus

August 2019 – May 2025

- *GWA:* 1.026
- *Competitions:* Statistical Challenge (Team - Champion), Philippine Online Physics Olympiad (Team - Champion), National Olympiad of Informatics (Individual - Finalist), Philippine Mathematics Olympiad (Individual - Area Stage)
- *Research Topic:* Generation of Drug Analogs Using a Hierarchical Fragment-Based Genetic Optimization Algorithm

EXPERIENCE

Intelligent System for Demand and Aquaculture

May 2025 – Present

Co-Founder and Developer – Aquaculture, Space and Satellite Data

Quezon City, Metro Manila

- Architected a full-stack NextJS platform that secured 1st Place at the PhilSA Space Business Innovation Challenge (Professional Category)
- Developed predictive models and recommendation algorithms for aquaculture demand using satellite imagery and geospatial data to optimize supply chain logistics.

Mindanao State University - Iligan Institute of Technology

June 2023 – August 2023

Intern – Industry

Iligan City, Lanao del Norte

- Implemented Bayesian statistical models to predict student performance, establishing the logic for a future personalized recommendation algorithm.
- Performed Exploratory Data Analysis on student demographic and academic datasets using R to identify key performance indicators and patterns and documenting findings in LaTeX.

PROJECTS

UP Diliman Online Judge Submission Tracker | JavaScript, Chrome Extension | Competitive Programming

August 2025

- Built a Chrome extension to scrape and visualize submission status to aid in the training for competitive programming and other programming exercises.

Smart Irrigation System with Predictive Water Modeling | Python, C++, Arduino, Jupyter Notebook | Agronomy

July 2025

- Developed a smart irrigation system that utilized water balance models and weather forecasting to optimize irrigation schedules by preventing water loss.

Computational Drug Design via Genetic Optimization | Python | Drug Design

May 2025

- Utilized Pareto fronts and the NSGA-II algorithm to optimize 13 variables, including ADMET properties, to suggest possible alternative drug treatments for leukemia.
- Presented research findings at the DOST National Science and Technology Week 2025.

Full-Stack Employee Inventory Tracking System | JavaScript, Astro, SQL, ExpressJS, Docker | Management

May 2025

- Developed a full-stack inventory tracking system with QR code capabilities using Astro, ExpressJS, and SQL.
- Automated deployment workflows by engineering a CI/CD pipeline with GitHub Actions, GHCR, and Docker, reducing manual server updates on a local Ubuntu environment.

SKILLS AND INTERESTS

Languages: Python, C++, JavaScript (NextJS, Vue, Astro), SQL, Docker

Technologies/Frameworks: Linux, Jupyter Notebook, Git, Vercel, GitHub Container Registry

ML/Stats: scikit-learn, OpenCV, Bayesian modeling, Exploratory Data Analysis

Certifications and Conferences: CS50ai, CS50x, International Conference on Computational Chemistry

LEADERSHIP & ACTIVITIES

Alliance for Leadership and Advancement for the Youth

August 2024 – May 2025

Founder and Representative

Philippine Science High School - CMC

- Founded and led an organization that successfully deployed 4 major projects impacting the entire school community.
- Streamlined campus operations by launching a Dormitory ID System and a school-wide feedback loop to enhance inter-community communication.
- Standardize leadership workflows by overseeing the creation of the project manager manual used across the organization.