

# CABRERA, JEN JADE B.

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## EDUCATION

San Pablo Colleges	Hermanos Belen Street, San Pablo City
Bachelor of Science in Computer Science	September 2022 - Present

## INTERESTS AND TECHNOLOGIES

Interests:	Data Science, Web Development, App Development, DevOps, Creative Media, Linguistics
Technologies:	Python, JavaScript, TypeScript, R, Java, PHP, Dart, CSharp, Docker, Arduino, Bash, HTML, CSS, React, Next.js, CodeIgniter, Laravel, Bootstrap, TailwindCSS, DaisyUI, ShadcnUI, NextUI, Flutter, JavaFX, PostgreSQL, MySQL, Supabase, PocketBase, Flask, Flask-RESTX, OpenAPI, Swagger, Streamlit, Gplot2, Pandas, NumPy, Seaborn, Plotly, Scikit-learn, Git, Jupyter, Linux, Ubuntu, Zorin, Tmux, Neovim, VSCodium, Photoshop, InDesign, Premiere

## WORK EXPERIENCE

Machine Learning Engineer & Backend Developer	September 2024 - Present
<ul style="list-style-type: none"><li>Collaborated with a masteral student to develop a <b>document evaluation system</b> using <b>Natural Language Processing (NLP)</b> to assess legal documents for project proposals.</li><li>Designed a pipeline to tokenize and embed document text, extract the most relevant sentences for each question using <b>cosine similarity</b>, and validate responses through <b>Natural Language Inference (NLI)</b>.</li><li>Built the backend infrastructure using <b>Flask</b>, <b>Flask-RESTX</b>, and <b>Docker</b>, deployed via <b>Gunicorn</b>, and documented APIs with <b>OpenAPI/Swagger</b>.</li><li>Conducted exploratory data analysis and prototyping using <b>Jupyter Notebook</b> to refine the NLP pipeline.</li></ul>	
Flutter & React Developer	June 2024 - Present
<ul style="list-style-type: none"><li>Developed a <b>kiosk application</b> using <b>Flutter/Dart</b> featuring a virtual tour functionality integrated via a web view.</li><li>Built the accompanying <b>web application</b> for the virtual tour using <b>React</b> and <b>TypeScript</b>, incorporating <b>Pannellum</b> for 360° panorama views, and designed the UI with <b>ShadcnUI</b> and <b>TailwindCSS</b>.</li><li>Utilized <b>TanStack Query</b> for efficient state management and optimized API interaction for seamless user experiences.</li><li>Delivered a fully functional system tailored to enhance organizational engagement through interactive features.</li></ul>	
Java Developer	May 2024 - Present
<ul style="list-style-type: none"><li>Developed an <b>attendance system</b> using <b>JavaFX</b> for the frontend, <b>ActiveJDBC</b> for database interactions, and <b>Arduino</b> for hardware integration.</li><li>Designed an intuitive user interface for efficient attendance tracking and seamless communication with hardware components.</li><li>Delivered a complete solution with real-time attendance recording and reporting features.</li></ul>	
Full Stack Developer	November 2023 - May 2024
<ul style="list-style-type: none"><li>Developed a <b>virtual storefront application</b> for a Japan-based jewelry business using <b>Next.js</b>, <b>TailwindCSS</b>, <b>ShadcnUI</b>, <b>Supabase</b>, <b>PostgreSQL</b>, and <b>TanStack Query</b>.</li><li>Implemented <b>role-based access</b> and <b>Supabase Row Level Security</b> to ensure secure data access for different user roles.</li><li>Integrated <b>Maya Payment</b> for seamless online transactions.</li><li>The project was ultimately discontinued due to unforeseen circumstances.</li></ul>	

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## PROMINENT PROJECTS

Analyze: An AI and NLP-Enhanced Platform for Sentiment and Insight Extraction2024

- **Project repository:** <https://github.com/hyoaru/analyze>
- Designed and implemented a **supervised machine learning model** using **Pandas**, **NumPy**, **Scikit-Learn**, and **Jupyter Notebook** with a **Multinomial Naive Bayes** classifier. The model predicts the **sentiment** and **emotion** of sentences using an emotion dataset from Kaggle.
- Developed an **API** for the model using **Flask**, **Flask-RESTX**, **Gunicorn**, **Docker**, and documented it using **OpenAPI/Swagger**.
- Built the core **backend API** using **PHP Laravel** and **OpenAPI/Swagger** for robust data handling and scalability.
- Developed a **web client** using **TypeScript**, **React**, **TanStack Router**, **TanStack Query**, **TailwindCSS**, and **ShadcnUI** for a dynamic, responsive user interface.
- Designed the platform to enable **executives** to post questions and allow their **subjects** to respond. The platform predicts the **sentiment** and **emotion** of the responses, extracts **key concepts**, and generates **keywords** and **keyphrases**.
- Incorporated a **summarization feature** using a **Large Language Model (LLM)** from OpenAI to generate summaries of the entire thread.

Beyond Decor: A Portfolio and Inquiry Website System2023

- **Project repository:** <https://github.com/hyoaru/beyond-decor>
- Developed a **portfolio and inquiry website system** for **Beyond Decor**, a party and entertainment service, using **ReactJS**, **Next.js**, **DaisyUI**, **TailwindCSS**, and **PocketBase**.
- This project served as an eye-opener to the **composability design principle** in **React** and deepened my understanding of **Next.js** philosophies for building optimized, scalable web applications.
- The website showcases **Beyond Decor's services**, allowing users to explore party and entertainment options, inquire about services, and get in touch with the company.

Philippine Poverty Area Estimates Choropleth2023

- **Project repository:** <https://github.com/hyoaru/philippine-poverty-area-estimates-choropleth>
- Developed a **web application** providing a visual representation of the estimated magnitude of poor families in the Philippines using a **choropleth map**.
- The map visualizes data from the years **2006**, **2009**, **2012**, and **2015** to give users insights into the poverty distribution across regions.
- **Data source:** United Nations Office for the Coordination of Humanitarian Affairs (**UN OHCA**) and **Philippine Statistics Authority (PSA)**.
- The project was built using **Python**, **Jupyter Notebook**, **NumPy**, **Pandas**, and **Streamlit**.

Breast Cancer Classification: Supervised Machine Learning2022

- **Project repository:** <https://github.com/hyoaru/sparta-supervisedml-binary-classification>
- Completed a **peer-reviewed machine learning task** as part of the **Smarter Philippines through Data Analytics R&D, Training and Adoption (SPARTA)** program on the course **Data Science and Machine Learning with Python**.
- Implemented **binary classification** using the **Breast Cancer Wisconsin Diagnostic Dataset**, employing machine learning techniques to predict the presence of cancer based on feature data.
- This project sparked my interest in **machine learning** and helped me discover my passion for the field. As a **first-year scholar** in the SPARTA program, I had the opportunity to collaborate with peers who were already working professionals, which enriched my learning experience and broadened my perspective.

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## CERTIFICATIONS

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Google Data Analytics Capstone: Complete a Case Study	July 2023 · Google
Data Analysis with R Programming	June 2023 · Google
Share Data Through the Art of Visualization	May 2023 · Google
Analyze Data to Answer Questions	April 2023 · Google
Process Data from Dirty to Clean	March 2023 · Google
Prepare Data for Exploration	January 2023 · Google
Foundations: Data, Data, Everywhere	December 2022 · Google
Ask Questions to Make Data-Driven Decisions	November 2022 · Google
Computing in Python	February 2022 · Project SPARTA PH
Computing Microspecialization Pathway	September 2022 · Project SPARTA PH
Data Science and Machine Learning Using Python	September 2022 · Project SPARTA PH
Data Visualization Microspecialization Pathway	September 2022 · Project SPARTA PH
Methods and Algorithms Microspecialization Pathway	September 2022 · Project SPARTA PH
Build Python Web Apps with Flask	August 2022 · DICT Philippines
Analyze Data with Python	July 2022 · DICT Philippines
Basic Statistics With Python	July 2022 · DICT Philippines
Experimental Design and Analysis	July 2022 · Project SPARTA PH
Programming for Beginners Using Python	July 2022 · Project SPARTA PH
Programming for Intermediate Users Using Python	July 2022 · DICT Philippines
Visualize Data with Python	July 2022 · DICT Philippines
Statistical Analysis and Modeling Using SQL and Python	May 2022 · Project SPARTA PH
Computing in Python	February 2022 · Project SPARTA PH
Data Visualization Using Tableau and Python	February 2022 · Project SPARTA PH
SQL for Business Users	February 2022 · Project SPARTA PH
Storytelling Using Data	December 2021 · Project SPARTA PH
Dashboards and Drill-Down Analytics	September 2021 · Project SPARTA PH
Data Visualization Fundamentals	September 2021 · Project SPARTA PH
Data Management Fundamentals	March 2021 · Project SPARTA PH
Essential Excel Skills for Data Preparation and Analysis	January 2021 · Project SPARTA PH
Getting Grounded on Analytics	December 2020 · Project SPARTA PH