Jacob E. Barcelona

Software Engineer

Profile

A passionate Software Engineer with expertise in full-stack web and mobile development, specializing in creating innovative solutions through research, development, and implementation. Skilled in transforming complex requirements into user-friendly solutions using modern technologies and frameworks.

Contact

- 0956-213-5833
- jacobbarcelona30@gmail.com
- www.github.com/cob-byte
- Manila, Philippines

Skills and Technologies

- **Adaptability:** Quick learner who can rapidly adapt to new technologies and programming languages
- **Problem Solving:** Strong analytical skills with focus on creating efficient, scalable solutions

- **Frontend:** HTML, CSS, JavaScript, React, React Native, Expo, NativeWind, TailwindCSS
- **Backend:** Python, Django, Node.js, Flask, FastAPI
- **CMS:** WordPress (Custom Themes & Plugin Development)
- **Databases:** PostgreSQL, MySQL, SQLite, Firebase
- **Mobile:** React Native, Expo, PyQt
- **Tools & Platforms:** Git/GitHub, VS Code, Railway, Firebase Auth, JWT Authentication

Education

(2020-2024)
PAMANTASAN NG LUNGSOD NG MAYNILA
Bachelor of Science in Information Technology
Magna Cum Laude

(2018-2020)
TECHNOLOGICAL INSTITUTE OF THE PHILIPPINES
Science, Technology, Engineering, and Mathematics Strand
Graduated with Honors

Achievements

- Google Developer Student Clubs PLM Member (2020 - 2024)
- Hack-Attack: Forge New Ideas for Solving Real-World Problems - Participant (Ideathon, 2023)
- Philippine Web3 Festival Hackathon - Participant (2022)
- Nervos Network's Devpost Hackathon - Web3 World Challenge - Category Winner (2022)
- Aesthetic Literary Club Treasurer (2018 - 2020)

Experience

2024 – 2025
LINOFLAP TECHNOLOGY PHILIPPINES INC.
Software Engineer

- Developed and deployed multiple production-ready applications including the IMS Face Recognition Attendance System, IMAI Mobile App, and IMAI Cart Classifier System
- Built cross-platform mobile applications using React Native and Expo, ensuring seamless performance across iOS and Android platforms
- Created RESTful APIs using FastAPI and integrated real-time data synchronization between tablet and mobile platforms

2024
LINOFLAP TECHNOLOGY PHILIPPINES INC.
Software Developer Intern

- Utilized various models from the TensorFlow 2 model zoo, ranging from image segmentation and classification to object detection for different use cases.
- Incorporated MediaPipe hand detection and face mesh into a Unity game for player control and action.
- Gained hands-on experience with computer vision libraries and machine learning frameworks

Projects

IOT-POWERED BABY CRADLE WITH COMPUTER VISION

- Developed a Flutter application that acts as a remote control for a Raspberry Pi-powered baby cradle with various features that runs on python scripts.
- Preprocessed and trained MTCNN for baby's face and landmark detection to ensure safe sleeping position. Used FIDBB for benchmarking and WIDER Face for evaluation.
- Implemented MediaPipe's face mesh and pose detection for automated sleep tracking.

MEDIQS: HEALTH CENTER'S EMR PORTAL SYSTEM WITH DISEASE OUTBREAK FORECAST

- Created a web-based platform for health centers in Manila to manage patient health records and scheduling using Django, HTML, CSS, JavaScript.
- Used DOH data of disease cases from 2016 to 2022 for the structural time series to forecast potential outbreaks.
- Used heuristic algorithm for patient's appointment prioritization.
- Deployed in production using railway to conduct testing for I.T. professionals and apply their inputs.

IMS PAYROLL MOBILE - REACT NATIVE

- Developed a mobile payroll application for IMS Philippines Maritime Corp seafarers featuring payroll details viewing, deductions tracking, comprehensive allottee management.

RE-COM: COMMUNITY RESOURCE MANAGEMENT SYSTEM OF BARANGAY

- Developed a Java mobile app with a "Community Consensus" polling system for resident participation in barangay decisions.
- Utilized a Reddit-like upvote/downvote system for relevance filtering.
- Created an announcement board and emergency hotline for real-time updates and emergency responses.
- Incorporated a scheduling system for efficient management and reservation of barangay resources and facilities.

IPLM: INTEGRATED PLM - COLLABORATION PROJECT OF UNDERGRADUATE IT STUDENTS

- Developed a web-based Student Information System using Django.
- Lead as a backend in the admin panel and collaborated with other user roles on the website.
- Handled data structure to different user roles.
- Revamped the admin panel using Simple UI.

ATTENDANCE MANAGEMENT SYSTEM USING FACE RECOGNITION

- Used Tkinter and customtkinter for GUI.
- Used PostgreSQL for its storage, functionality, and capabilities (cube datatype).
- Used Dlib for face detection and recognition.
- Used mediapipe face mesh for automatic capturing of face datasets.

CARE PAW BABIES - PET E-COMMERCE PLATFORM

- Built using WordPress to have a full-featured e-commerce solution for pet products and services.
- Successfully deployed and tested in localhost using XAMPP and MySQL for academic requirements.

Certificates

- Unlocking the Potential: Google Workspace for Students in Learning Transformation
- Introduction to Microsoft Excel: Boosting Productivity and Efficiency
- CALABARZON Cyber Talks with the Academe
- AI: How the technology can be utilized responsibly and reliably as Human support
- Getting Started with ReactJS - A Beginners' Guide

- Getting Job-Ready with AI - An Engineering Focus
- Prices Prediction using AI in Modular Code
- Exploring the Power of Machine Learning
- The Role of AI in Cybersecurity
- C++ Programming Fundamentals and AI Integration

Character Reference

Elijah Pekson
Intelligence Bank
Senior Frontend Developer
etrpekson99@gmail.com

Lynnzie Nadong
Copywriter,
Mr. Rooter Plumbing of Ottawa
lynnzieabrahamnadong@gmail.com

Criselle J. Centeno
Pamantasan ng Lungsod ng Maynila
Assistant Professor 1
cjcenteno@plm.edu.ph