Elmer Jhay T. Zapata

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merzbuilds.dev | github.com/EJhayGit

Portfolio

EDUCATION

Holy Angel University — **Angeles City, Philippines**
Bachelor of Science in Computer Science, Consistent Dean's Lister — 2023 - 2027 (expected)
Thesis: A Mobile-Based CNN Face Recognition Attendance System with GPS Location Validation

University of the Assumption — **San Fernando, Pampanga**
High School - Senior High — 2017 - 2023

PROJECTS

AGILA: Face Recognition Attendance System *Lead developer, team of four* **Aug 2026**

- Led most development of a thesis prototype for construction field-personnel attendance: Android app (Flutter, Kotlin), web dashboard, FastAPI backend and PostgreSQL/Supabase.
- Led training of the MerLens V2 face recognition model in PyTorch, run on-device with ONNX Runtime alongside pose-based and GPS location checks.
- Led offline attendance with an encrypted queue and idempotent sync; all 10 test records synced after a controlled 15-minute outage.

CartCheck: Grocery List and Trip History App **Oct 2026**

- Owned scope and shipped a live grocery list app (cartcheck.merzbuilds.dev) with React, Express and PostgreSQL, directing Codex through written specs, diff review and testing.
- Delivered account authentication, email verification and trip history with price snapshots, verified by client, server and database tests.

Deckhand: Open-Source Claude Code Plugin **Oct 2026**

- Directed and released (through v0.6.0) a Claude Code plugin of reusable AI agents with per-agent limits, built by Claude Code from my build plan (github.com/EJhayGit/deckhand).
- Specified a fail-closed guard on every tool call and a pipeline that stops for human approval.

Metal Screw Defect Detection *Contributor, team of four* **Mar 2026**

- Contributed to a defect classifier using MobileNetV2 transfer learning (TensorFlow/Keras), served through FastAPI to a Flutter app.

TECHNOLOGIES USED IN PROJECTS

Languages: Python, JavaScript, Dart, Kotlin, SQL, HTML/CSS
Frameworks: React, Vite, Express, FastAPI, SQLAlchemy, Flutter
Data and deployment: PostgreSQL, Supabase, Docker, Render, Git, GitHub
AI and vision: PyTorch, TensorFlow/Keras, ONNX Runtime, OpenCV, MediaPipe
AI coding tools: Claude Code, OpenAI Codex (written specs, diff review, test gates)

SOFT SKILLS

- **Communication:** Write clear specs and build plans, and coordinated development across a four-person thesis team.
- **Hardworking:** Took on most development and all model training for the AGILA thesis.
- **Attention to detail:** Review diffs and test behavior before merging or shipping.
- **Problem solving:** Worked through failure cases such as network outages, stale edits and repeated requests.
- **Adaptability:** Moved between mobile, web, backend and machine learning across projects.

CERTIFICATIONS

Networking and security: CCNA: Introduction to Networks, Cyber Threat Management, Endpoint Security
General IT and programming: CompTIA IT Fundamentals (ITF+), JavaScript Essentials 1
AI and data: AI Fundamentals with IBM SkillsBuild, Data Analytics Essentials