

Emilio Zdenko Abarca Cruz

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Computer Engineering student specializing in Full Stack Development and Artificial Intelligence. Experienced in building efficient, scalable web applications (React, Next.js) and data-driven AI models (Python, TensorFlow). Passionate about bridging innovation and usability through hands-on projects.

Skills: Python, JavaScript, TypeScript, Java, Next.js, React, CSS, Tailwind, Git, GitHub, PostgreSQL.

EDUCATION

Computer Engineering, *Universidad Autónoma del Estado de México* 2023 – 2028 | Toluca, EDOMEX

TRAINING PROGRAMS

Samsung Innovation Campus 2024, *Universidad de Monterrey (UDEM)* 11/2024 - 05/2025

- Completed an intensive program focused on applying Machine Learning and Deep Learning to real-world challenges.
- Collaborated with a multidisciplinary team (Applied Mathematics, Data Science, Mechatronics) to manage the project lifecycle.
- Strengthened skills in leadership, teamwork, research communication, and project management within a high-pressure technical environment.

Programa Delfín, *Centro de Investigación en Computación (IPN)* 07//2025 - 09/2025

- Participated in a summer research internship focusing on autonomous robotics.
- Conducted academic research, contributing to scientific dissemination and technological innovation through collaborative development.

PROJECTS

Autonomous Cart 07/2025 - 08/2025

- Developed an autonomous mobile robot with LiDAR-based perception for real-time navigation and obstacle avoidance.
- Processed sensor data from the YDLIDAR X4 using ROS and Python on a Jetson Nano, enabling 2D environment mapping.

SIC Final Project 01/2025 - 04/2025

- Designed and implemented a lung cancer detection system utilizing Machine Learning and Deep Learning techniques.
- Developed supervised and unsupervised models with Python, Scikit-learn, and TensorFlow, improving predictive accuracy through experimentation.

Divino Desmadre 08/2025 - 09/2025

- Developed a real-time social media platform using React, Vite, and Supabase (PostgreSQL) for content sharing and interaction.
- Implemented features for posting media, nested comments, and live updates through Supabase subscriptions.
- Designed a modern, responsive interface with TailwindCSS; managed global state with Zustand and optimized data fetching with React Query.

LANGUAGES

- English: B2 (TOEFL-ITP)
- Japanese: N5 (JLPT)