

Gilberto Malagamba Montejo

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Education

Monterrey Institute of Technology and Higher Education (ITESM) — B.Sc. Computer Engineering 2023–2027
GPA: 95.26/100

Work experience

Meta — Software Engineer Intern Jun 2025–Present

- Built 3 production-ready React Native surfaces with Relay, GraphQL, and Flow in close collaboration with Figma designers.
- Implemented scalable backend support in Hack including data fetching, pagination, null states, feed and module organization.
- Added gated saving content feature and new entry point on production tabs in Objective-C++ to support experimentation.
- Took on a stretch goal to build a logging structure that streamlined migration from deprecated Native Templates Facebook App tabs and improved data analysis of the new user experience. Additionally, documented the project for handoff.

Qualcomm — Research Associate Intern Dec 2024–Mar 2025

- Developed IoT Edge AI demos on the RB3 Gen 2 robotics vision platform leveraging the Qualcomm AI Hub.

Oneila — Software Engineer Intern Oct–Dec 2024

- Built internal npm package with Puppeteer/Playwright for web scraping.
- Engineered Dockerized orchestrator with Express and Dagster for accessing Mexican fiscal data.

PDEI united — Web developer Nov 2023–Present

- Soccer courses and coaching e-store built in Next.js with Stripe and Google Drive API for seamless integration.

Smiley — Web developer Aug 2023–Feb 2024

- E-store for ticket purchasing and events publicity built in Angular with Firebase; quickly reached more than a thousand users.

Projects

Smart Factory — ITESM Automation Laboratory Scholarship Service PM Aug 2024–Jun 2025

- Developed a Dockerized interactive vision system on Jetson Nano using OpenCV, Processing, and CUDA-based inference, enabling real-time user interaction; integrated Raspberry Pis to receive and display video streams via WebSockets over LAN.
- Built a speech-to-speech AI assistant with tool-calling, integrating RAG, ROS navigation, and wake-word detection in Python to enable hands-free robot interaction.

RoboWeb — RoBorregos Open Source Web Dev Team PM Feb 2024–Present

- Led lockers IoT project with ESP32, AWS WebSockets and Next.js (T3 stack), improving security and inventory management.
- Built Chrome extension to auto-fill When2Meet events via Google/Microsoft APIs using React and Webpack.
- Developed site for team's annual recruiting competition Candidates in T3 with live scoreboard and Twitch integration.

Circuito Tec App — ITESM Mobility Project PM Sep–Dec 2024

- Designed cross-platform bus tracking app using Kotlin Multiplatform, Compose (Android), Swift (iOS), and Google Maps.
- Deployed Node.js backend in Render using TypeScript, Express, Prisma, and MySQL database hosted on AWS.

Competitions

Blue Legion — Web Specialist Of ITESM Competitive Cybersecurity Team Aug 2024–Present

- 9th/63 at HackDef 2025; 16th/100 at HackMex 2024 and 2025 (privilege escalation, reverse shells, web vulnerabilities).
- Won Hackrock's offensive and Palo Alto's defensive CTFs at H4ck@Tec 2024.

Robocup @Home — RoBorregos Human Robot Interaction Project Manager May 2024–Present

- Achieved 6th place at RoboCup Brazil 2025, advancing from 16th place at RoboCup Eindhoven 2024.
- Migrated STT ROS2 node to gRPC Docker microservice with Faster-Whisper CUDA; reduced transcription latency by 50%.
- Migrated from OpenAI GPT to locally hosted finetuned Llama 3.2 running on NVIDIA Xavier with CUDA.
- Implemented pose/gesture detection in Python using OpenCV and MediaPipe, enabling re-ID by cosine similarity per angle.
- Developed informative on robot React web UI with node.js, WebSockets and ROS2 backend for improved user interaction.

Robocup Rescue Maze Jr. — RoBorregos Representative Open Source Robotics Team Nov 2023–Apr 2024

- Designed autonomous robot algorithm (DFS + Dijkstra) that placed 2nd at Mexican Robotics Tournament.
- Integrated Jetson Nano and ESP32 with TensorFlow Lite vision model for letter and color recognition.

Skills

Languages: C++, C#, Java, Python, JavaScript, Kotlin, MATLAB, Hack

Frameworks: React, React Native, Next.js, Node.js, Tailwind, Angular, Unity, Docker, Prisma, ROS2, gRPC, Auth.js, tRPC

Technologies: OpenCV, MediaPipe, PostgreSQL, MySQL, Firebase, MongoDB, Git, Linux/Unix, Sapling, GraphQL

Awards & Languages

3rd place Codicon International Hackathon (2024) · Finalist Mexico FTC (2023) · Regional San Diego FTC (2023) · 4th place Regional Basic Sciences (2022) · Mexican Informatics Olympiad: 16th (2022), 36th (2021)

Languages: Spanish (Native), English (TOEFL ITP C2)