

Arturo Duran Castillo

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EDUCATION

ITESM

B.S in Computer Science and Technology

- GPA: 97.65/100 (approx. 3.9/4.0)
- Scholarships: Academic Talent Scholarship

Monterrey, Nuevo León

Expected Graduation: June 2025

EXPERIENCE

Web Developer Intern

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June 2023 – Aug. 2023

Monterrey, Nuevo León

- Implemented new functionality and bug fixes to a web dashboard used by 35 affiliated businesses using React and Firebase to improve operational efficiency and customer satisfaction.
- Contributed in the development of new functionalities for the mobile application, using React Native and Firebase I managed to impact more than 20,000 users.

PROJECTS

IOS app for deaf patients | *SwiftUI, React, Node.js, Express.js, Prisma, WebSocket*

Sep 2023 – Dec 2023

- Worked in collaboration with the organization "Dilo en Señas" to create an application that can help deaf patients cover their consultation process.
- Real-time chat functionality using Apple Speech framework to transcribe the speaker's text and AVSpeechSynthesizer to process the deaf patient's text to speech.
- Use of web socket for viewing and modifying chat messages in real time from a web application.

Multi-Agent System for Harvesting Process Optimization | *Unity, Node.js, WebSocket*

Aug 2023 – Sep 2023

- Collaborated with John Deere to develop a 3D Unity simulation to optimize the harvesting process.
- Developed a React-based web interface for inputting simulation parameters such as land dimensions and vehicle counts, and enabled real-time monitoring of vehicle fuel levels, cargo capacities, routes, and speeds.
- Implemented advanced algorithms, including a modified Traveling Salesman Problem for harvesters' routes and Q-learning for tractors' crop collection paths, optimizing harvesting efficiency.
- Established WebSocket communication for real-time coordination between system components.

Smart Traffic Light Development | *Python, OpenCV, MySQL, MQTT, Arduino*

Sep 2022 – Dec 2022

- Developed an intelligent traffic light system capable of adjusting light durations based on real-time traffic, pedestrian presence, and weather conditions.
- Implemented traffic analysis using cameras and AI algorithms with OpenCV for vehicle detection and counting.
- Developed a control dashboard for traffic data visualization and analysis, enabling comparisons and insights at different hours and days.
- Programmed Arduino microcontroller for traffic light control using analyzed data.

Virtual library for a children's home | *WordPress, HTML, CSS, JavaScript*

Aug 2022 – Dec 2022

- Developed a digital library for "Casa Hogar Padre Severiano Martínez", a children's home, enhancing book availability and categorization for 200 children belonging to this organization.

LEADERSHIP / EXTRACURRICULAR

Intercultural, Sustainability and Global Citizenship Program

Dec 2023

Thompson Rivers University

Kamloops, British Columbia

- Obtained a full scholarship from the state of Guanajuato, Mexico to attend this program.
- Active participation in intercultural environments, where I honed intercultural communication and teamwork skills
- Fostering global awareness and a focus on sustainability, essential for the development of future projects. My experience also emphasized the importance of global citizenship, integrating diverse perspectives to address international challenges.

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, C++, C#, HTML/CSS, R

Additional Technologies: React, Remix, Node.js, Express, MySQL, PostgreSQL, MongoDB, SwiftUI, Unity

Developer Tools: Git, Google Cloud Platform, Firebase