

# Diego de Jesús Esparza Ruiz

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## EDUCATION

### Monterrey Institute of Technology and Higher Education

Expected Graduation: June 2026

Bachelor of Science, Computer Science and Technology

- Relevant Coursework: Calculus, Data Science and Mathematics, OOP, Statistical Analysis, Programming of Data Structures and Algorithms, Software Construction and Decision Making

## AWARDS AND PARTICIPATIONS

- Badge of GSL Classroom – 2022
- Neoris Game Project – 2024
- “Google Day - AI in Action by IBM” – 2024
- Ikusi Network design - 2024
- Engineering Expo - 2024
- Engineering Expo - 2025 WINNER
- Best development - 2025 Neoris

## MAJOR PROJECTS

### Security House | Expo ingenierias Project

November 2023

- Developed a home model incorporating security with movement sensors, proximity sensors, RFID system, IR sensor with alarms.
- Implemented Arduino sensors for the servomotor for the door working with the RFID system.
- REST API in Python.**
- Enabled a web interface (**React**) for users to view precise data retrieval and real-time updates in **MySQL**.
- Team endeavor using Arduino Language, Python, and SQL, concepts as IoT.

### Neoris Quest | Game and web page

April 2024

- Designed and developed a web app that allows Neoris workers to play a video game in which you advance according to the courses you have completed with the company.
- REST API in JavaScript** using Firebase.
- Web app in **React**.
- Video Game in **Unity**.

### HowIX | Expo ingenierias Project Winner

July 2025

- Developed a Web App that allows visualizing and analyzing customer conversations, transcribing in real-time, analyzing emotions, detecting key topics, and generating reports with relevant metrics.
- Won 1st Place in the Technology Entrepreneurship category at Tecnológico de Monterrey ExpoIngenierías and Best Development, awarded by our corporate mentor NEORIS.

### ReSicloAPP | iOS Mobile Application

August 2024 - July 2025

- Designed and developed a native iOS application to promote responsible recycling, integrating machine learning for waste classification and an interactive map for locating recycling centers.
- Engineered and implemented key features, including an interactive map (MapKit), QR code scanner, waste identification model (CoreML), and a gamified recycling reward system.
- Designed and managed the database architecture, ensuring seamless integration between local and cloud storage using PostgreSQL and Firebase.
- Developed a secure authentication system with Firebase Authentication and implemented security best practices.
- Built a modern, intuitive UI using SwiftUI, following MVVM and Clean Architecture principles.
- Conducted testing and performance optimization to ensure a seamless user experience across iOS devices.

## SKILLS

|                       |   |
|-----------------------|---|
| Programming Languages | Python, C++, JavaScript, C#, Clojure, Racket, Scheme, Swift               |
| Frontend/Backend      | React, Firebase, MySQL, HTML/CSS  |
| Developer Tools       | GitHub, Figma, Unity, MATLAB, VS Code, Arduino, API, Flutterflow, R, Jira |
| Languages             | English B2 and French A2  |