

# Emmanuel Saenz

(915) 335-4904 | El Paso, Texas 79912 | [esaenz894@gmail.com](mailto:esaenz894@gmail.com) | <https://esaenz517.github.io/porfolio/>

## EDUCATION

The University of Texas at El Paso (UTEP)  
**Master of Science in Software Engineering**

Anticipated: 12/2026

The University of Texas at El Paso (UTEP)  
**Bachelor of Science in Computer Science**

Anticipated: 12/2025

## WORK EXPERIENCE

### SOFTWARE DEVELOPER INTERN

February 2025 – Current

*El Paso County | Information Technology Department*

El Paso, Texas

- Collaborated with a team of five to develop “**ITD Afterhours**”, a web application for managing on-call employee schedules, using **C#, JavaScript, HTML, CSS, SQL**, and **MVC** design pattern.
- Utilized **Git** for version control with **GitKraken** as the GUI client, and leveraged **Azure DevOps** for repositor hosting, task tracking, and collaborative development workflows.
- Designed and implemented **SQL** database tables to store and retrieve scheduling data, ensuring reliable data persistence for real-time application use.
- Performed functional testing and iterative debugging, documenting test cases and outcomes to resolve issues and enhance system stability and user experience.
- Created, modified, and refactored **SQL** reports integrated with the county’s **Odyssey** case management system to support efficient, cross-departmental data reporting.
- Completed development tasks through the **HappyFox** ticketing system, customizing reports based on user-defined parameters to improve data accuracy and usability.

### DATA ANALYSIS INTERN

November 2023 – February 2025

*El Paso County | Community Services Department*

El Paso, Texas

- Developed a python script to streamline data cleaning processes, reducing manual data-entry errors from 40% to less than 5% for over 110,000 datapoints improving efficiency and accuracy.
- Conducted statistical analysis of immigration datasets and developed comprehensive advisory reports using **Tableau** and **Power BI** for decision making purposes for the El Paso commissioners court and local stakeholders.
- Presented interactive data dashboards to the Community Services Department Executive Director and senior staff, enhancing data sharing and supporting migration-related decision-making for local and national stakeholders.
- Proficiently utilized **Python** for data research purposes and periodic studies on local county datasets, leveraging **Matplotlib** for data visualization.
- Improved data organization within the County’s Office of New Americans by integrating dataset from multiple sources to enhance accessibility and usability.

## PROGRAMMING PROJECTS

### Banking System V2 | *Web Extension*

Current

*React / Node.js / Express*

- Independently rebuilding the Java-based system as a full stack web application using the **MERN** stack (MongoDB, Express, React, Node.js) to enhance usability and accessibility through a modern web interface.
- Developed RESTful API endpoints with **Express** and **Node.js** to handle core banking operations such as account creation, authentication, deposits, withdrawals, transferring’s, and balance tracking.
- Deployed the full-stack application to **Google Cloud** Platform using Cloud Run for scalable and reliable hosting.
- Containerized the application using Docker for standardize development and streamline deployment workflows.

### Banking System | *Adv. Obj Programming*

December 2024

*Java*

- Contributed with a group of 3 the design and development of a banking system, creating UML Case and Class diagrams for the requirement and design phase of the project.
- Followed software design principles (SOLID) during the development process, incorporating refactoring and design patterns to enhance maintainability, scalability, and readability of the **Java** code.
- Constructed and incorporated **Junit Testing** for unit and system testing to ensure accuracy for functionalities such as account transactions, data validation, and error handling.

### Mentorship System | *Database Management System*

December 2024

*HTML / PHP / SQL*

- Developed diagrams to characterize the scope of an event and resource mentorship system creating requirements, entity-relationship diagrams, relation model, and normalized schema.
- Collaborated with a team of 4, utilizing **MySQL** to build a comprehensive database incorporating queries, subqueries, procedures, and triggers, in relation to the entities of the system’s scope.
- Created a website utilizing **PHP** and **HTML**, allowing users to sign up as a mentor or mentee, be paired up with a student based on relevant experience and aspirations, and create documentation on monthly event participations.

## SKILLS

**Programming Languages:** C#, Java, Python, React, JavaScript, CSS, C, PHP, HTML, SQL, MQL

**Office Skills:** Microsoft Office (Word, Excel, PowerPoint & Teams), Tableau Software, Microsoft Power BI, GIT, Azure DevOps