

# Roberto Rivera Terán

QA & Software Engineer

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## PROFESSIONAL SUMMARY

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Software Engineer with strong **Fullstack** and **QA focus**, experienced in **Python**, **Angular**, and **software testing**. Proficient in **JUnit**, **Mockito**, **Pytest**, and **test coverage** techniques (statement, branch, mutation). Built and tested real-time applications using **REST APIs**, **Firebase**, and **CI/CD pipelines**. Eager to join a team where I can contribute to software quality while continuing to grow through real-world challenges.

## KEY SKILLS

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- **Frontend:** Angular, TypeScript, JavaScript, HTML, CSS
- **Backend:** Python, FastAPI, RESTful APIs, SQLAlchemy
- **Database:** PostgreSQL, Firebase Realtime Database
- **Testing & QA:** JUnit, Pytest, Test Coverage, Unit Testing, Test Plan Design, CI-integrated Testing
- **DevOps:** Git, GitHub Actions, Railway, Vercel, CI/CD
- **Tools:** Node.js, Unity, Postman, JaCoCo, PIT Mutation Testing, OpenAI API
- **Languages:** Spanish (Native), English (B2), Japanese (Basic)

## RELEVANT EXPERIENCE

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### Chatbot Web App, *Personal Portfolio Project*

May 2025

- Developed a **fullstack chatbot web application** using **Angular** and **FastAPI**, integrating **OpenAI's GPT-3.5** to simulate real-time assistant conversations.
- Implemented secure **JWT authentication**, dynamic **chat history** storage in **PostgreSQL**, and **account management features** (register, login, update, delete).
- Deployed backend on **Railway** and frontend on **Vercel** with **responsive UI**, persistent user sessions, and **automated testing** using **Pytest**.
- Designed and implemented persistent user-specific chat history using **PostgreSQL** and **SQLAlchemy**, allowing users to log in, view past conversations, and maintain context across sessions.

### Penguin Twitch Battle, *Freelance Project*

Oct 2024 – Jan 2025

- Developed a **Unity-based game** in **C#** with **Twitch API** integration for **real-time viewer interaction**.
- Implemented **design patterns** like **Observer** (for enemy targeting), **State** (for penguin/enemy behaviors), and **Object Pooling** to optimize performance for over **3,000 concurrent users**.
- Successfully deployed and tested the game in a live Twitch environment, achieving seamless real-time interaction and scalability during live streams.

### Discord Chatbot with Sentiment Analysis, *Freelance Project*

Jan 2024 – Apr 2024

- Developed a **Python-based Discord chatbot** using **ChatGPT API**, integrating real-time **sentiment analysis** to tailor responses for over **8,000 users**.
- Implemented sentiment analysis and **Firebase** for dynamic behavioral responses.
- Deployed on Railway with 100% uptime and ensuring compliance with Discord's **rate limits**.

## EDUCATION

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### B. S. in Computer Science and Technology

Aug 2018 – Dec 2022

#### Tecnológico de Monterrey Campus Ciudad de México

- Relevant coursework: Advanced Databases, Software Design & Architecture, Advanced Programming.

### Introduction to Software Testing – University of Minnesota

Jun 2025

- Gained hands-on experience with **JUnit**, **Mockito**, **white-box** and **black-box** testing, **test coverage** (statement, branch, mutation), and **automated testing** pipelines.
- Developed and tested Java applications with focus on **defect detection**, **test design**, and **mutation analysis** (PIT, JaCoCo).
- Built end-to-end QA test plans for real-world case studies and integrated unit testing into CI workflows.