

Julio Martinez

tel. +52 (894) 846 8797 • Mexico City, MX • julio.mtz00@hotmail.com •

linkedin: [@julio.mtz00](#) • Website: <https://juliomtz00.github.io/resume> • GitHub: github.com/juliomtz00

Software Engineer

Software Development | System Testing & Automation | Cross-Cultural Experience

Software Engineer with a strong foundation in robotics and computer science, specializing in software development, testing, and automation. Experienced in Python, C++, and Java, with a passion for inclusive mobility, artificial intelligence, and innovative software solutions. Proven track record in developing and testing complex systems in automotive and technology sectors, with hands-on experience working in international environments. Dedicated to continuous learning and staying current with emerging technologies.

WORK EXPERIENCE

Datafor.xyz - Mexico City, Mexico (Remote)

June 2024 - Today

FREELANCE SOFTWARE TESTER

- Developed automated test scripts and conducted thorough manual and automated testing for safety-critical buy and sell transaction software using Python (Kivy library).
- Identified, analyzed, and resolved software bugs during test operations to ensure software reliability and quality.
- Managed test case creation and issue tracking using GitLab, enhancing workflow efficiency for remote teams.

Alten México - Mexico City, Mexico (On-Site)

April 2024 - Today

FNV TESTER HIL ENGINEER (MID)

- Executed comprehensive software tests in connectivity and infotainment modules for vehicle systems, ensuring high software quality.
- Created, documented, and tracked test cases using JIRA and TestRail, ensuring traceability and repeatability of tests.
- Collaborated with developers for software troubleshooting and bug resolution, utilizing CAN Bus and Ethernet protocols to monitor communication between vehicle modules.
- Managed test environments, flashed and updated software in vehicle modules, maintaining accuracy across versions.

Wallgo - Monterrey, Mexico (Remote)

January - April 2024

FREELANCE SOFTWARE DEVELOPER

- Implemented a closed-loop software system to receive video from an RPi connected to a camera, detecting plates and sending images to a Web Application to process.
- Designed and developed a Python application with Flask, controlling the camera vision.
- Developed and debugged the application code in Python; tracked application bugs and development in a GitHub repository.

John Deere - Monterrey, Mexico (Hybrid)

February - December 2023

ELECTRONIC HARDWARE INTERN

- Maintained software builder for engine controllers, identified and corrected software builder inconsistencies.
- Collaborated with stakeholders to distribute iterations of software for engine controllers in Agile Methodologies.
- Redesigned, programmed, and documented an application for a Rotary Sensor Speed Test Bench in Python, optimizing different devices used in one single application communicating with sensors and database creation.
- Developed and debugged an application in Python; tracked bugs and development in a GitHub repository.

Audi AG - Ingolstadt, Germany (Hybrid)

April - September 2022

CONNECTED INFOTAINMENT INTERN

- Defined criteria for infotainment functions, and helped to conduct software tests for Automotive Infotainment Software to demonstrate maturity level, adapting for hybrid work environments.
- Operated the setup of a residual bus simulation at a test bench, and assembled a simulation with Android Studio including mapping of the entire vehicle via residual bus simulation, resulting in more efficient testing durations, using Postman for vehicle parameter tracking inside the simulation.

- Organized meetings with suppliers, created and maintained DevOps and Jira dashboards for tracking the development of infotainment functions and extracted and examined competition analysis and research work.

EDUCATION

Universidad de Monterrey - *San Pedro Garza García, Nuevo León, Mexico*

Bachelor of Science in Electronic Technologies and Robotics – December 2023

Ruhr Universität Bochum - *Bochum, Germany*

Bachelor of Science in Electrical Engineering and Computer Science – Year abroad (October 2021 - January 2023)

PROFESSIONAL SKILLS

- Languages: English (C1, proficient, TOEFL ITP 617), Spanish (native), German (B2, advanced).
- Software Development: Python, Java, C++, HTML, CSS, JavaScript.
- Management Tools: Jira, Microsoft Office, Test Rail, Azure DevOps, Git, Agile Methodologies, Github, Gitlab.
- System Administration: HIL, CAN Bus, Ethernet, Postman, Windows, Linux
- Certificates: ISTQB Foundation Level.
- Cloud Solutions: Flask (Cloud architectures for IoT and web apps).
- Database Technologies: SQL.

PROJECTS

German-English Learning App - *Monterrey, Mexico*

December 2023 - February 2024

- Designed and developed a scalable Python desktop application that allows users to study German vocabulary, enhancing language acquisition through an intuitive user interface.
- Implemented cloud-based storage for word lists, leveraging Python libraries for data handling and retrieval, and used Agile methodologies to manage iterative development.

S.U.R.E. 3D Wheelchair Digital Model (UMTRI at UMich) - *Ann Arbor, Michigan, USA*

June - July 2023

- Developed and designed computational models of wheelchair geometry for dynamic test fixture design, ensuring high precision in model simulation and data analysis.
- Utilized JavaScript (JSCAD) for real-time data analysis and visualization, processing wheelchair geometries for usability testing.
- Applied Agile methodologies in developing models, iterating based on real-time feedback from project stakeholders.

Validation of Functionality in Matrix Headlights (at Audi AG) - *Ingolstadt, Germany*

September 2022 - January 2023

- Created a Python-based desktop application for configuring and simulating adaptive headlights based on EU and US regulations, utilizing real-time data from a Raspberry Pi and Arduino for sensor input.
- Integrated C++ and Python for controlling light intensity and traffic simulation in dynamic environments, providing users with custom configurations for light behavior and traffic conditions.
- Conducted vehicle light measurements using fluxometers and sensors, automating the data collection process for validation.
- Researched and implemented regulatory compliance requirements (EU and US) in the application to ensure legality and effectiveness of the lighting system.

AWARDS AND HONORS

KOSPIE DAAD Scholarship - *Bochum, Germany*

September 2021

- Engaged in a exchange program focusing on global vision, internationalization and technology management.
- Developed proficiency in German and English through language courses.

UDEM Academic Excellence Scholarship - *San Pedro Garza García, Mexico*

August 2018

- Scholarship for university studies regarding excellent achievement in high school studies.
- President of Student Association, vice-president of Regional Student Group, student leadership group trainer.