LUIS PRECIADO

ROBOTICS ENGINEER

CONTACT

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LANGUAGES

- Spanish (Native)
- English B2 (Intermediate - Advanced)

HARD SKILLS

- Python (Advanced)
- C/C++ (Intermediate)
- Java (Intermediate)
- SQLite/MySQL (Intermediate)
- Matlab/Simulink (Advanced)
- Linux (Advanced)
- Embedded C
- ROS/ROS2 Framework

SOFT SKILLS

- Effective communication
- Teamwork
- Problem solving
- Critical thinking
- Adaptability

CERTIFICATIONS

Python University (+71 hrs) 2023
Udemy

TIA Portal Workshop 2019
Siemens Automation University

PROFILE

I'm a passionate and motivated individual with a strong interest in programming, automation, and robotics. Nearing the completion of my Robotics Engineering degree, I am seeking a graduate position to further enhance my knowledge and make meaningful contributions to the industry. With over a year of experience as an intern in the automotive industry, I am committed to continuous learning and professional growth. My effective communication skills and active listening enable me to engage with my colleagues' ideas, and my ability to work in a team allows me to contribute effectively to problem-solving and achieving shared goals.

WORK EXPERIENCE

Robert Bosch México — August 2023 - July 2024

Embedded Software Intern

- Designed and implemented a Python and Rasa framework-based Chatbot to facilitate new developer induction and provide troubleshooting assistance, complete with a local SQL database for response management, a ChatGPT-based model API for enhanced query handling, and Github for version control.
- Automating report generation for fault-mapping between customer defined fault application and ECU's real monitors using Python scripts, leveraging Pandas, Anaconda, and fuzzy logic libraries, to ensure accurate tracking of monitor-fault mappings and to guarantee software quality deliverables.
- Developed scripts to cross-reference client requirements with ECU header files, identifying potential inconsistencies and streamlining the verification process.

Key achievements: Improved efficiency of deliverables by 40% and enhanced quality of deliverables, reducing inconsistencies by 90%.

Intelligent Systems Laboratory (CUCEI) — January 2023 - August 2023

Robotics Research Intern

- Supported the development of research on consensus algorithms for the Turtlebot robot platform and other holonomic robots using motion capture technology, optical tracking (OptiTrack), and ROS drivers on a Linux environment.
- Extensively worked with Linux in the assembly, programming, and testing of UAV units, as well as the implementation of monocular and stereoscopic visual-inertial odometry algorithms focused on indoor flights.
- Performed PCB and circuit design to synchronize measurements from optical and inertial sensors at the hardware level, which was required for the implementation of visual odometry.
- **Key achievements:** Modified existing ROS/ROS2 C++ drivers in a Linux environment to synchronize visual-inertial measurements and developed new drivers to control holonomic robots and UAV kinematics

EDUCATION

University of Guadalajara — January 2020 - Currently

Robotics Engineering

- Knowledge in artificial intelligence algorithms, robotic vision, and machine learning programmed in high-level languages such as Matlab and Python.
- Experience in analog and power electronics to control physical systems, and developed modern graphical interfaces using Qt and LabVIEW to interact with these systems using serial protocols, including I2C and CAN.
- Understanding of digital electronics oriented towards the design of sequential/combinational circuits, as well as programming of PLDs and embedded systems using C and VHDL.

CETI Colomos — August 2015- June 2019

Automatic Control Technologist

- Degree focused on electronics, control theory, and automation as well as the management of industrial instruments such as transducers, PLCs and actuators
- Proficient in analog and digital electronics, microcontrollers, industrial electronics, and power electronics.
- Degree certification based on a project: Tennis Ball Launcher Robot employing data acquisition systems from sensors and power stages for the control of stepper and direct current motors to control the speed and position of the ball launch.