

# Jonatan David De La Rosa Patlan

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🌐 <https://jonatandlr.vercel.app/>

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## EDUCATION

**Tecnologico de Monterrey-Campus Mty**  
*Bachelor of Mechatronics Engineering*

*Expected December 2025*  
*GPA 93/100*

## WORK EXPERIENCE

### John Deere

Software Engineer Intern

July 2024-Present

- Utilized **C++** and the **Qt** framework to develop and maintain user interfaces, ensuring seamless interaction and user experience.
- Assisted in migrating graphical content from PNG to SVG for sprayer applications.
- Debugged and resolved defects , including memory leaks and issues identified by AddressSanitizer, to enhance software stability.

## LEADERSHIP & INVOLVEMENT

### RoBorregos

Software Developer

November 2022-Present

- Member of the RoBorregos Robotics Team, representing Tecnológico de Monterrey.
- Working on @Home Team, contributing to the development in the field of **computer vision** to create an autonomous butler for participation in RoboCup.

## MAJOR PROJECTS

### PI-Controlled Vehicle

Control System

August 2023-December 2023

- Spearheaded** a project focused on the design, assembly, and testing of an autonomous vehicle with a **PI** (Proportional-Integral) Control System.
- Developed a **PI control system** for an **Inertial Measurement Unit** (IMU) aimed at accurately detecting and maintaining specific angles within the vehicle.
- C++** and **Arduino** programming, with implementation of the **PI** control system using microcontrollers such as **Arduino Nano** and **ESP8266**

### Robo Web

RoBorrego's Web Development Team

August 2023-Present

- Working on a admin page for [RoBorregos.com](https://RoBorregos.com), creating an interface to edit the team's projects using **NextJS**, **Tailwind**, **tRCP** and **Prisma**.
- Involved in the development of a redesign update for the main page using **Astro** and **Spline** for 3D animations in **Frontend**.

### Hack Mty

Hackathon @Tec de Monterrey

Septembert 2023

- Development an application using **generative AI** to aid in studying using **Python**, **Streamlit** and the **Frida SDK** by **Softtek**. The application allows users to upload their notes and generates quizzes based on the content

### RoboCup @Home

Mexican Robotic Tournament 2023

January 2023-April 2023

- Development of pretrained models for **object detection** with **Python**, **Yolov5** and **Tensor Flow**.
- Automation to create datasets and Labeling using **COCO** and **Yolo annotation** through 3D files with **PolyCam** and **Python**.

## SKILLS

### Programming Languages:

C/C++, Python 3 years  
JavaScript, Matlab 2 years  
TypeScript, 1 years

### CAD Design

SolidWorks 2 years  
Fusion360 1 years

### Languages

Spanish Native  
English B2

### Technologies

Git, GitHub, Yolov8, Arduino, STM32, ESP8266, HTML, CSS, Reactjs, TailwindCSS, MySQL, SQL, Node.js, Next.js, Astro, Prisma ORM, Restful API, Vercel, PLC's, RobotStudio, CNC

### Certifications

Scrum Fundamentals Certified By SCRUM Study  
JavaScript Course By Codecademy  
React Course By Codecademy