

Igmhar Augusto Sánchez Canales

B.S. IN MECHATRONICS ENGINEERING · ROBOTICS & SOFTWARE DEVELOPER

Monterrey, Nuevo León, México · Willing to relocate

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Profile

Mechatronics Engineer with a minor in Cyber-Physical Systems from Tecnológico de Monterrey. Comfortable developing solutions using different technologies and frameworks. Good at understanding and developing robotics and automation projects. Proficient and enthusiastic with experience in team-based software development and robotics, always eager to learn and self-driven towards solving world problems. Enthusiast about programming, robotics, automation, vision systems, artificial intelligence

Skills

Programming Python, C++, C#, TypeScript, JavaScript, Go, Rust

Technologies ROS, ROS2, Arduino, Raspberry Pi, React, Next.js, Unity, PyTorch, TensorFlow, OpenCV, Docker, MySQL, Git, Linux

Soft Skills Problem Solving, Systems Thinking, Team Collaboration, Technical Communication, Proactive Learning, Adaptability

Languages Spanish (Native), English (C1 – TOEFL IBT)

Work Experience

Ultra Tech Inc.

Remote / Panama, Panama City

FULL-STACK SOFTWARE DEVELOPER

Aug. 2024 - Present

- Contributed to the development of a nationwide Electronic Health Records (EHR) system for the Social Security Fund of Panama (CSS), enhancing healthcare efficiency and data accessibility.
- Designed and implemented front-end interfaces (ReactTS) and back-end services (NestJS, SQL databases) for modules including medical records, appointments, health rooms, medications, and healthcare staff.
- Ensured compliance with healthcare regulations by integrating secure, scalable, and user-friendly systems in collaboration with cross-functional teams.

Projects

Design and Development of a Mobile Autonomous Robot || ENDER INDUSTRIAL

Monterrey, México

SOFTWARE DEVELOPER LEAD

March. 2024 - May. 2024

- Led development of a fully autonomous mobile robot capable of navigating complex environments.
- Implemented ROS 2 nodes, optimized LIDAR for real-time mapping, and developed PID controllers for precise motor control.
- Integrated Raspberry Pi 4 with Arduino Nano for system coordination, ensuring stable communication and processing.
- Built a React-based Web App to tele-operate the robot and visualize real-time mapping data.
- Enhanced navigation and obstacle avoidance performance through iterative testing and optimization.

Robot Development and Implementation || Manchester Robotics

Monterrey, México

SOFTWARE DEVELOPER LEAD

Aug. 2023 - November. 2023

- Programmed a mobile robot and robotic arm to achieve synchronized automated pick-and-place operations across multiple locations.
- Utilized the ROS framework with Python to enable autonomous navigation for the mobile robot and coordinated manipulation tasks for the robotic arm.
- Improved system efficiency by 30% beyond expectations, optimizing robot kinematics, transformations, and PID controllers.
- Delivered a scalable solution for industrial automation and autonomous service robots, focusing on precision and reliability.

Involvement

Emotion Detector|| Hey Banco, Datathon 2024: Data Science Hackathon)

Monterrey, Mexico

SOFTWARE DEVELOPER

May. 2024

- Developed an NLP model to predict user emotions from text using count vectorization and logistic regression.
- Implemented the model in Rust, compiled to WASM, and deployed as a web app for native execution on any computer.

Education

Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM)

Monterrey, Nuevo León, México

B.S. IN MECHATRONICS ENGINEERING | MINOR: CYBER-PHYSICAL SYSTEMS

Aug. 2020 - June. 2024

- Gpa: 3.7/4.0 (93/100)
- Relevant Coursework: Implementation of Mechatronic Systems, Design and Development of Robots, Automation of Manufacturing Systems.

Certifications & Awards

2024 **Diploma**, Leadership and Student Training recognition for art and culture activities

Monterrey, México

2024 **Diploma**, CS50 Introduction to Computer Science Harvard/EdX

Online

2023 **Diploma**, Robotics Summer Program Shibaura University

Tokyo, Japan