



Jesus Enrique Aleman Gallegos

Erasmus Mundus Joint Master (EMJM) Degree in Intelligent Field Robotics Systems (IFRoS) student, granted a full ride scholarship over 700 applicants around the world. Highly motivated to join a dynamic and fast paced lab environment where the state of art is pushed forward in robot localization and SLAM fusing LiDAR, Radar and cameras.



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SKILLS

C++

Python

ROS2

CUDA

Linux

Matlab

Eigen

PCL

OpenCV

Docker

LANGUAGES

Spanish

Native or Bilingual Proficiency

English

Native or Bilingual Proficiency

INTERESTS

Multi-Modal Sensor Fusion

Robot Localization

SLAM

ICP

EDUCATION

Erasmus Mundus Joint Master Degree In Intelligent Field Robotic Systems (IFRoS)

Universitat de Girona (Spain), Eötvös Loránd University (ELTE) (Hungary)

10/2021 - 09/2023

GPA: 9.37/10

Thesis

- Multi-modal Sensor Fusion for Robot Localization In an Industrial Environment

Bachelor of Engineering in Cybernetics and Electronics

Centro de Enseñanza Técnica y Superior (CETYS) (Mexico)

09/2017 - 06/2021

GPA: 97.92/100

Honours

- Magna Cum Laude Honours.

Bachelor of Arts in Management

City University of Seattle (USA)

01/2018 - 03/2021

GPA: 3.730/4.0

Engineering Certificate

College of The Rockies (Canada)

08/2016 - 08/2017

WORK EXPERIENCE

Robotic Software Engineer Intern

TAVIL

01/2023 - Present

Spain

Achievements/Tasks

- Design drivers to interface communication between a B&R PLC and ROS2 via UDP socket communication.
- Develop an introductory training course on ROS2 for the engineering staff.
- Develop an EKF SLAM based localization system fusing wheel encoders, IMU, ICP odometry and fiducial markers for an autonomous forklift.

WORK EXPERIENCE

Computer Vision Developer Intern

Coronis Computing S.L. [↗](#)

06/2022 - 08/2022

Spain

Achievements/Tasks

- ▣ Developed a GUI for configuration and visualization of data coming from a hyperspectral camera of 224 bands using Qt Creator (C++).
- ▣ Developed a GUI for real-time food inspection running a deep learning model on data coming from a hyperspectral camera reaching 500 FPS.
- ▣ Accelerated Image processing algorithms with OpenCV and CUDA (C++).
- ▣ Embedded a PyTorch model into production with the LibTorch FrontEnd for C++ running inference on an NVIDIA GPU.
- ▣ Developed Hyperspectral data processing and visualization tools in Python.

Embedded Software Intern

Bose [↗](#)

10/2020 - 04/2021

Mexico

Achievements/Tasks

- ▣ Firmware testing and development of automation scripting tools for testing automation in Python 3.

Robotics Research Intern

Research and Development Center for Digital Technology (CITEDI) [↗](#)

06/2019 - 11/2019

Mexico

Achievements/Tasks

- ▣ Research Internship, High Performance Intelligent Computing Laboratory at CITEDI-IPN.
- ▣ Implemented a computer Vision Algorithm for a 1:10 scale vehicle to follow a lane with a PID controller.
- ▣ Took a Master Level class in Intelligent Computing (Topics such as Fuzzy logic and Fuzzy control).
- ▣ Participated at "6th State Meeting of young researchers 2019 in Baja California". Winner of the first place of oral presentations.
- ▣ Assistance and presentation of the 2019 course on "Wireless communication technologies for the industry 4.0".
- ▣ Participation in the CINAP research seminary at CETYS with the presentation "Research Experiences at CITEDI-IPN".

SUMMER SCHOOLS

IEEE RAS Summer School on Multi-Robot Systems (08/2022 - 08/2022)

MRS Group at FEE-CTU Prague, [Certificate of Attendance](#)

Robotics and AI Summer School 2022 (07/2022 - 07/2022)

Universidad Politecnica de Catalunya, [Certificate of Attendance](#)

Mechatronics systems engineering and product innovation Summer School
(06/2018 - 07/2018)

RWTH Aachen University, [Certificate of Attendance](#)

PUBLICATIONS

Conference

Autonomous navigation for a holonomic drive robot in an unknown environment using a depth camera (USA) [↗](#)

21 August 2020

Research publication about an implementation using a holonomic robot platform with a depth sensor camera for obstacle avoidance.

PUBLICATIONS

Journal

Lane detection using sliding window method (Mexico)

07 June 2020

Lane detection using the sliding window algorithm, the lanes were identified and a control signal was generated for keeping the robot in track without getting out of the lanes

Conference

Autonomous navigation for a differential drive robot in a partially known environment (USA)

6 September 2019

Research publication on autonomous mobile robot for navigation in a partially known environment. C was used for driving the hardware and Python 2.7 was used for the planning algorithm in the ROS (Robot Operating System) framework running on a raspberry Pi 3B+.

CERTIFICATES

Autonomous Mobile Robots, ETH Zürich-EdX (07/2020 - 08/2020)

▣ [Certificate of Completion](#)

Fundamentals of Reinforcement Learning, University of Alberta-Coursera (05/2020 - 07/2020)

▣ [Certificate of Completion](#)

Robotics Software Engineer Nano Degree, Udacity (06/2020 - 07/2020)

▣ [Certificate of Completion](#)