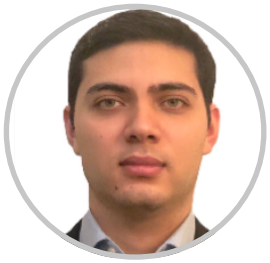

Jesús Enrique Alemán Gallegos

Nationality: Mexican (+34) 624408398 **Date of birth:** 08/04/1998

Gender: Male **Email address:** u1977518@campus.udg.edu

Email address: enrique.aleman1998@gmail.com

Website: https://enriquea52.github.io/Enrique_Aleman.github.io/

Whatsapp Messenger : +52 664 364 72 01

LinkedIn : www.linkedin.com/in/JEAG1235

Address: Király utca 28. Floor II, Door 42, 1061 Budapest (Hungary)

ABOUT ME

Erasmus Mundus Joint Master (EMJM) Degree in Intelligent Field Robotics Systems (IFRoS) student, granted a full ride scholarship over 700 applicants. Looking forward to specialize in robot motion and task planning to coordinate multiple agents and make them interact and cooperate in dynamic-unstructured environments, especially interested in the self driving cars field.

WORK EXPERIENCE

Computer Vision Developer

Coronis Computing S.L. [07/06/2022 – 19/08/2022]

City: Girona

Country: Spain

Computer Vision Development Internship :

- 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 Corporation [15/10/2020 – 23/04/2021]

City: Tijuana, Baja California

Country: Mexico

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

Robotics Research Internship

CITEDI [20/06/2019 – 20/11/2019]

City: Tijuana, Baja California

Country: Mexico

- 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”

EDUCATION AND TRAINING

Erasmus Mundus Joint Master Degree in Intelligent Field Robotic Systems

Universitat de Girona, Eötvös Loránd University (ELTE), University of Zagreb [04/10/2021 – 23/09/2023]

Address: University of Girona Polytechnic School Campus Montilivi IV , 17003 Girona Catalonia (Spain)

https://ifrosmaster.org/

Field(s) of study: Robotics

Final grade : 9.51

IEEE RAS Summer School on Multi-Robot Systems

MRS Group at FEE-CTU Prague [01/08/2022 – 05/08/2022]

http://mrs.felk.cvut.cz/summer-school/

Robotics and AI Summer School 2022

Universidad Politecnica de Catalunya [04/07/2022 – 06/07/2022]

https://www.iri.upc.edu/workshops/RoboticsAISummerSchool2022/

Bachelor of Engineering in Cybernetics and Electronics

Centro de Enseñanza Técnica y Superior (CETYS) [09/2017 – 06/2021]

Address: Av. CETYS Universidad No. 4 Fracc. El Lago, 22210 Tijuana, Baja California (Mexico)

https://www.cetys.mx

Field(s) of study: Engineering, manufacturing and construction : *Electronics and automation*

Final grade : 97.92

Completed Cybernetics and Electronics Engineering Bachelor's degree with Magna Cum Laude Honors.

Bachelor of Arts in Management

City University of Seattle [01/2018 – 03/2021]

Address: 521 Wall St #100, 98121 Seattle, Washington (United States)

https://www.cityu.edu

Field(s) of study: Management

Final grade : 3.730

Completed Bachelor in Management covering topics related to leadership, management and organizational effectiveness.

Summer course in Prague about Project Management at VSFS (University of Finance and Administration).

Mechatronics systems engineering and product innovation Summer School

RWTH Aachen University [06/2018 – 07/2018]

Address: Templergraben 55, 52062 Aachen, North Rhine-Westphalia (Germany)

https://www.rwth-aachen.de/go/id/a/?lidx=1

Field(s) of study: Engineering, manufacturing and construction : *Electronics and automation*

Mechatronics courses such as Information Theory, Robot modeling and control and autonomous mobile robots implementation lab. (1st place in Mechatronics Systems Engineering and Product Innovation challenge)

Engineering Certificate

College of The Rockies [08/2016 – 08/2017]

Address: 2700 College Way, V1C 5L7 Cranbrook, British Columbia (Canada)

https://cotr.bc.ca

Field(s) of study: Engineering, manufacturing and construction : *Inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction*

I received an Engineering Certificate at College of the Rockies where I took first year engineering courses. I received hands-on courses on programming C++ and Robotics design.

LANGUAGE SKILLS

Mother tongue(s): **Spanish**

Other language(s):

English

LISTENING C1 **READING** C1 **WRITING** C1

SPOKEN PRODUCTION C1

SPOKEN INTERACTION C1

DIGITAL SKILLS

My Digital Skills

Python 3 / Robot Operating System (ROS) / GIT (GitHub) / C++ / Matlab / Qt5 / LibTorch

PUBLICATIONS

Autonomous navigation for a holonomic drive robot in an unknown environment using a depth camera

[2020]

https://doi.org/10.1117/12.2568163

Research publication about an implementation using a holonomic robot platform with a depth sensor camera for obstacle avoidance. The robot used the RRT* algorithm for path planning and re-planning to arrive to a desired location. The robot used a Jetson Nano as the on-board computing device with code written in Python 2.7, the drive-train was controlled with a custom PCB and a TM4C123GH6PM

microcontroller for controlling the speed of four motors, every module was connected using the Robot Operating System (ROS).

Lane detection using sliding window method

[2020]
http://revistaaristas.tij.uabc.mx/index.php/revista_aristas/article/view/18

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. Python programming was used along the ROS (Robot Operating System) framework, the single board computer on the mobile robot was a ODROID XU4 running Ubuntu 18.

Autonomous navigation for a differential drive robot in a partially known environment

[2019]
https://doi.org/10.1117/12.2528517

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+.

COURSES AND CERTIFICATES

Autonomous Mobile Robots, ETH Zürich-EdX

[07/2020 – 08/2020]
https://courses.edx.org/certificates/25123401211c4e05b81abc50988183ab

Fundamentals of Reinforcement Learning, University of Alberta-Coursera

[05/2020 – 07/2020]
https://www.coursera.org/account/accomplishments/certificate/JB84QPMC2WJ5

Robotics Software Engineer Nano Degree, Udacity

[06/2020 – 07/2020]
https://confirm.udacity.com/2MPWDRDG

Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning, deeplearning.ai-Coursera

[06/2020 – 07/2020]
https://www.coursera.org/account/accomplishments/certificate/9D6QYSF62Q2A

Machine Learning with Python , IBM-Coursera

[03/2020 – 04/2020]
https://www.coursera.org/account/accomplishments/certificate/QRVZLFPAWC8K