DIANA ERENDIRA MARTINEZ RODRIGUEZ

(+52) 4641244417 diana.emartinezrodriguez@outlook.com
linkedin.com/in/diana-erendira-martinez-rodriguez/ Zapopan, México USA Visa B1/B2

Experience

Continental Autonomous Mobility Mexico Oct 2018 - Jan 2025

Sr R&D Algorithms Engineer: LiDAR Perception

- Developed point cloud visualization tools using C++ and OpenGL for algorithm analysis within the LiDAR Perception component.
- Support on the design and implementation of a communication and synchronization layer to facilitate seamless data exchange between algorithm components and the visualization tool. Utilized Protocol Buffers (protobuf) for efficient data serialization and eCAL (publish-subscribe middleware) for reliable message distribution, ensuring low-latency and high-throughput communication.
- Led integration efforts and supported demonstrations for potential clients to show sensor capabilities.
- Mentored a new LiDAR perception team in Querétaro, fostering collaboration withing the team in other locations around the world, such as: Germany, France, and the United States.
- Components documentation using Doxygen.

R&D Algorithms Engineer: LiDAR Blockage detection

- Served as Scrum Master for 1.5 years, facilitating agile processes.
- Results presentation to the external stakeholders.
- Optimized and validated C++ code for embedded platforms (DSP).
- Implement metrics for algorithm validation collaborating in the development of a Plotly Dash web application to report results.
- Issues analysis reported from SW and HW validation teams.
- Developed unit tests using Google Test (gtest) for the different components.
- Performed static code analysis for MISRA C++ compliance.

Education

Master Degree in Electrical Engineering 2016-2018

University of Guanajuato. *Guanajuato, Mexico*

- **Thesis:** Object tracking based on visual saliency.
- **Supervisors:** PhD. Víctor Ayala Ramírez and PhD. Uriel Haile Hernández Belmonte.
- **Relevant Coursework:** Pattern recognition, Evolutionary Computation, Computer Vision, Digital Signal Processing.
- **Publication:**
  - A genetic programming framework in the automatic design of combination models for salient object detection. Genetic Programming and Evolvable Machines. Vol 20 (pp. 285-325), 2019.

Research Stay Sept 2016 – Dec 2016

University of Texas at Dallas. *Texas, USA*

- Teacher assistant.

Bachelor of Science in Computer Systems 2010-2015

University of Guanajuato. *Guanajuato, Mexico*

- **Relevant Coursework:** Programming (C, C++, C#, Java, SQL, MATLAB), Data Structures, Machine Learning, Optimization, Databases, Artificial Intelligence
- **Awards:** Academic merit award in the Computer Systems Program: The Best GPA of the generation graduated on 2014.

Software, Tools & Skills

Programming languages: C++ (8 years), C (3 years), Python (3 years), C#, MATLAB.

Technologies: Azure, CMake, Git, Jira, Confluence, Jenkins, Docker, Bash/Shell, GCC/Clang, Google Test, PlantUML, OpenGL, OpenCV, Unity, SQL, eCAL.

Soft skills: Applied research, problem-solving, results-driven, teamwork, determined, enthusiastic.

Operative systems: Windows , Linux, Unix.

Technical skills: Algorithms, pattern recognition, image processing, computer vision, video game development.

Language skills: English (Professional proficiency), Spanish (Native)

Certificates and Courses

Microsoft Certified: Azure Fundamentals
SAFe 5 Agile Practitioner
Scrum Fundamentals Certified