Jorge Askur Vazquez Fernandez

Jorge Askur Vazquez Fernandez | jorgeaskur06@gmail.com | +52 844 608 7029 | JorgeAskur
Monterrey, Nuevo Leon, Mexico | https://flowcv.me/jorge-askur-vazquez-fernandez

Education

August 2020 – June 2024

Bachelor of Science in Robotics and Digital Systems Engineering, *Tecnologico de Monterrey*
GPA: 96.62/100
Academic Merit Scholarship
Academic Merit Award

- Design of Advanced Embedded Systems project: Self-Regulating Air Pressure System for John Deere
- Design of on-Chip Systems project: Infotainment System with Raspberry Pi and STM32F103C8T6 for Intel
- Design with Programmable Logic project: Tic-Tac-Toe-FPGA for Intel
- Puzzlebot Autonomus Driving challenge: Puzzlebot challenge for Manchester Robotics

Relevant Coursework: Data Structures and Algorithms, Computational Architectures, Internet of Things, Object-Oriented Programming, Secure Networks, Robotics.

Professional Experience

August 2023 – present
West Lafayette, Indiana, USA

Computer Science Research Intern, *Purdue University*
- Worked on developing a novel voice-based interface for Virtual Reality (VR), leveraging Large Language Models.
- Developed the virtual environment for Meta Quest 2 and 3 using Unity and C#.
- Designed and conducted a user study with 22 participants.

February 2023 – July 2023
Monterrey, Mexico

Software Engineer Intern, *AirDX Technologies*
- Achieved the implementation of a simulated quadrotor with a Velodyne VLP-16 Lidar and a ZED2 Stereo Camera in Gazebo, which allowed the simulation of an inspection for damage detection on an A321 aircraft using Robot Operating System (ROS), Python and Docker.
- Implemented hdl_graph_slam for a simulated UAV in Gazebo, using ROS Noetic, which allowed the localization and mapping of the quadrotor in relation to the aircraft.
- Instructed 2 team members in ROS, Python and Docker in 2 weeks.

Projects

August 2022 – present

VantTec Student Group, *Software Engineer and Team Leader for the Unmanned Underwater Vehicle Team*
- Coordinated a team of 7 people to design, document, and implement a state machine for a simulated Unmanned Underwater Vehicle (UUV) for the RoboSub competition, using Python, Docker, and Robot Operating System (ROS).
- Developed a 3D position estimation system in real time using OpenCV, Linear Algebra, Python, YOLOv7 & ROS to identify the 3D position of different objects recognized by a neural network.
- Implemented the aforementioned system in a Self Driving Vehicle for the identification and location of obstacles and pedestrians in real time.

June 2022 – present

SOMCIS Research Project, *Working as a Project Leader and Software Engineer for the Computer Vision Team*
- Reorganized the project by focusing on Social Robotics therapy and coordinated 3 teams toward the development of a prototype app.
- Led a team of 5 people to the development of an emotion recognition system using Python, OpenCV, Flask, and the Deepface library.

August 2020 – June 2021

VEX U Robotics Team, *Worked as a Software Engineer for the ITESM2 Team*
- Developed the remote control of the robot and the autonomous routine using PID control in C++, resulting in movements with a precision of 95%.
- Instructed 10 new team members on Python & C++ programming in a month for Vex U.
- Competed in a competitive programming tournament in the Mexican Pre-national Robotics Championship 2021, achieving 1st place in the Programming Championship and the Award of Excellence.
- Reached 23rd place in the 1st Division on the Vex U In-Person Championship 2021, in Greenville, Texas.

Skills

Technical Skills
HTML, CSS, Express, Docker, ROS, ROS2, Unity, VR development, OpenCV, Pandas, Flask, Linux, Object Oriented Programming, Gazebo, SQL, Firebase, Bootstrap, Git, Embedded Systems, RTOS, Jira, NumPy, Parallel Programming, OpenMP, APIs, Communication Protocols (SPI, Serial, CAN, I2C), TensorFlow, PyTorch.

Python ●●●●●

C/C++ ●●●●●

C# ●●●●○

Soft Skills
Leadership, Teamwork, Communication, Problem-Solving, Patience, Adaptability

MATLAB ●●●●○

JavaScript ●●●○○

Courses

CS50x Introduction to Computer Science, *Harvard*