JUAN CARLOS TIQUE RANGEL

CONTACT

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Juan Carlos Tique
Personal website

HIGHLIGHTS

Robotic People Fest
Line Follower Competition, 2018
1st Place

Runibot
Line Follower Competition, 2017
4th Place

Support for Graduate Students Scholarship
Scholarship, 2024
Northern Arizona University

CERTIFICATIONS

Introduction to self-driving cars
2020
University of Toronto

Robotics: Aerial Robotics
2022
University of Pennsylvania

Robotics: Computational Motion Planning
2023
University of Pennsylvania

SKILLS

Programming

Java
Bash
Matlab
LaTeX

Software & Tools

Visualization (matplotlib, gnuplot)
SIMULINK
ROS 1
ROS 2
Docker
GAZEBO
RVIZ
OpenCV
CVXPY

Languages

Spanish (Native)
English

ABOUT ME

Motivated electronic engineer with more than four years of experience in robotics, high leadership, and goal-oriented skills. He has experience in autonomous robots, especially ground vehicles. He worked at **Kiwibot**, where he was in charge of supervising a team of autonomous ground robots to deliver food inside college campuses. Besides, Juan Carlos was working at **Void Robotics** where the role focuses on creating efficient and reliable robotic navigation solutions, contributing to the advancement of autonomous systems at Void Robotics. Finally the last experience was working as a Robotics engineer at **Windrobo**, support the team doing hardware and software tasks which required knowledge in ROS, Python programming, C++, UAV systems, electronic devices and flight controllers.

WORK HISTORY

May 2023 - Jan 2024
Windrobo
Robotics Engineer
At Windrobo, I worked with the hardware and software implementation in UAV systems. For the hardware side I focused on the setup of speed control calibration, flight controller installation, and firmware developing. On the other hand, I support the robotics team developing ROS nodes for the arm control, flight controller, image processing and trajectories design.

Apr 2023 - Jan 2024
Void Robotics
Intern Robotics Engineer
At Void Robotics, as a Robotics Engineer, I specialise in utilising ROS1, ROS2, C++, and Python to develop navigation systems for our robots. I leverage nav2 for autonomous navigation, implementing algorithms for perception and execution. Additionally, I utilise Gazebo for realistic virtual environment simulations and RViz for real-time visualisation and analysis of sensor data, mapping, and navigation results.

Mar 2022 - Dec 2022
Kiwibot
Campus Coordinator
At kiwibot I was working as a campus coordinator doing maintenance technician, logistic operations and data engineering, using tools for data analysis such as Pandas, Python, BigQuery and PostgreSQL.

Aug 2021 - Apr 2022
Alfapeople SA
Software Developer
At Alfapeople I did activities by the role of Software Developer of the CRM tool Dynamics 365 where I used X++ language and SQL server.

EDUCATION

2021
Universidad de Ibagué, Colombia
B.Sc Electronic Engineering

2025
Northern Arizona University, USA
M.Sc Electrical Engineering

PUBLICATIONS

- ***MBPC controller for UGV Trajectory Tracking***, 2021 IEEE 5th Colombian Conference on Automatic Control (CCAC), Oct 2021. DOI
- ***Physics-Constrained Taylor Neural Networks for Learning and Control of Dynamical Systems***, arXiv preprint arXiv:2410.02258 DOI