João Victor Torres Borges

Robotics Engineer

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Languages

- Portuguese ●●●●●
- English ●●●●○

Skills

- C++ ●●●●●
- Python ●●●●○
- ROS/ROS2 ●●●●●
- Gazebo ●●●●●
- Git ●●●●●
- OpenCV ●●●●○
- PyTorch ●●●○○
- Linux ●●●●●
- Docker ●●○○○
- Robotics ●●●●●
- Computer Vision ●●●●●
- Control Systems ●●●●○
- Embbeded Systems ●●●○○
- Machine Learning ●●●○○

Open Source Contributions

ros2_control

ros2_control_demos

I'm a Computer Engineer graduated from the Federal University of Alagoas, Brazil. I have acted as Robotics Engineer for +2 years professionaly, and a couple more years of academic experience, working with Control Systems, Navigation, Simulation e SLAM. I also have worked with Computer Vision and Embbeded Systems on projects of Mobile Robots and Autonomous Systems applications, with emphasis on Underwater Robotics on the latest projects. My strong skills are C++ and ROS for development. Currently, I work at the Research Institute of Brazilian Navy.

Working Experience

Fulltime

2019 – 2021 **Robotics Engineer** SENAI CIMATEC

Digisub is a project of a Underwater Sensor Scanner for 3D Point Cloud object reconstruction to attend tasks of inspection for the Oil and Gas sector. Activities developed were the implementation of a camera driver and to improve the software robustness for testing in the field.

RBiM is a project of a UAV to attend tasks of inspection and intervention for the Oil and Gas sector. Activities developed were the robot dynamic model in an underwater environment, controller design, teleoperation and control of devices. An interface for debugging and data visualization was also implemented.

TRIS project - *Thermal Remote Identification System of Feverish People* raises up, during COVID-19 pandemic, as a virus propagation control tool by assisting in the process of detecting feverish people. The essential modules are face detection and recognition, as well as, temperature estimation. Activities developed were the software architecture design, data acquisition and integration of modules into an optimized pipeline for real time application.

2019 – 2019 **Robotics Engineer** Brisa Robotics

Activities developed were software development and integration, mainly stacks like mapping and localization, navigation and WEB dashboard, to launch a differential robot capable of navigate autonomously.

Demo work: https://www.linkedin.com/feed/update/urn:li:activity:6554061159870316544/

Education

2022 **Computer Vision Nanodegree** Udacity

Image Segmentation, CNN Layers and Feature Visualization, YOLO, RNN Layers, Kalman Filter, SLAM.

2011 – 2017 **Bachelor in Computer Engineer** Federal University of Alagoas - UFAL

Thesis: A Case Study for Analysis and Evaluation ORB-SLAM Algorithm.

Demo work: https://www.youtube.com/watch?v=7BjP0osEKhU&t=51s

Publications

2020 **TRIS: Thermal Remote Identification System of Feverish People**
International Symposium on Innovation and Technology - SIINTEC

2018 **PID Controller Synthesis for Network Controlled Second Order Systems**
Brazilian Conference on Automation - CBA

July 14, 2022
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