Santiago Restrepo

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WORK EXPERIENCE

Universidad Autonoma de Occidente   **Cali, Colombia**
Researcher Junior   *Jan 2023 - Jan 2023*
- Participated in an engineering R&D project focused on two tableware production machines using coffee residues for social environments like coffee shops using conceptual design methodologies.
- Utilized Solidworks to design and fabricate the machines for the project.
- Collaborated with a team of engineers and designers to ensure project success.
- Coordinated with vendors and suppliers to procure necessary materials for the project

Kiwibot   **Medellin, Colombia/Boston, USA**
Maintenance Engineer Junior   *Jan 2022 - Jan 2022*
- Guaranteed the robotic fleet's safety and well-being using preventive and corrective maintenance procedures.
- Supported daily field operations in the USA.
- Repaired previous robots and increased fleet size by 250% with 15 operative robots for daily operations by utilizing oscilloscopes, multimeters, actuators, SMD soldering, and Altium 365.
- Learned to work in fast-paced start-ups with remote support and surveillance.

Universidad Autonoma de Occidente   **Cali, Colombia**
Research student at RAS research incubator   *Jan 2019 - Jan 2022*
- Led the Crazyswarm project involving software and hardware development with nine autonomous MAVs.
- Developed software and hardware using open-source tools such as ROS middleware, Python, C++, and Linux systems.
- Guided new people into the project and exhibited the research incubator and its projects using flight demos.
- Completed thesis project, CrazyKhoreia; and the project 3DBot.

PROJECT EXPERIENCE

Universidad Autonoma de Occidente   **Cali, Colombia**
CrazyKhoreia. A robotic perception system for UAV   *Jan 2022 - Jan 2022*
- Developed an open-source robotic perception system from a digital image for UAVs' path planning.
- Fully coded in Python and tested using the Crazyswarm project and the Crazyflies UAVs.
- Utilized open-source tools such as Sci-kit Learn, Python, Google Colab, Git, Numpy, PyPi, OpenCV, Scipy, matplotlib, ROS, LaTex, Overleaf, and Linux.

Universidad Autonoma de Occidente   **Cali, Colombia**
3DBot. A large format robotic mobile 3D printer.   *Jan 2021 - Jan 2022*
- Developed an open-source robotic mobile 3D printer using design methodologies, additive manufacturing, and robotics systems.
- Utilized open-source software and hardware tools such as Git for source control; Python for high-level computing using a Raspberry Pi 3 running Linux and ROS; and C++ to run microcontroller firmware.
- Implemented IoT features such as live streaming using an Azure VM with an Nginx server, a web page built on PHP, data streaming with MQTT and data storage with MySQL.

EDUCATION & CERTIFICATIONS

Universidad Autonoma de Occidente   **Cali, Colombia**
Mechatronics Engineering Bachelor's Degree - Academic excellence scholarship, gold tier

Stanford Online   **Remote**
Machine Learning Course Certificate

TensorFlow   **Remote**
TensorFlow Developer Certificate

Zero To Mastery   **Remote**
PyTorch

SKILLS & INTERESTS

Skills: Python, Linux, ROS, C++, Scikit-Learn, TensorFlow, PyTorch, OpenCV, MATLAB, Git, PLC, SOLIDWORKS.

Interests: : Robotic perception, computer vision, IoT, Artificial Intelligence.