Juan Sebastian Dueñas

Nationality: Colombian | **Email address:** juansebastiands@gmail.com | **Website:** https://www.jsds.fyi | **github:** https://github.com/jsduenass | **LinkedIn:** https://www.linkedin.com/in/jsduenass/ | **Address:** praha, Czechia (Work)

ABOUT ME

Mechatronics Engineer motivated to search innovative solutions and build products through the lens of Engineering and Optimization. Strong focus on hardware–software integration in robotics and UAVs, with experience in CAD modeling, design, sensor data processing and doing programing on the side.

WORK EXPERIENCE

HARDWARE ENGINEER – FLY4FUTURE – Feb 2025 – Current – PRAHA, CZECHIA

Work on project orientated development of custom drone solutions contributing on the mechanical design and prototyping, CAD modeling, integration of components and delivery of complete drones.

SOFTWARE SERVICE DESK ENGINEER – KIWIBOT – Feb 2024 – Dec 2024 – BOGOTA, COLOMBIA

- **Incident Management and Response:** Provide first-line investigation and diagnosis of all incidents and service requests.
- **Technical Support and Troubleshooting:** Resolve technical issues related to the robot delivery system, software applications, and IT infrastructure.
- **System Monitoring and Maintenance:** Monitor IT systems and applications for issues that could impact service quality or uptime.
- **Quality and Continuous Improvement:** Contribute to the continuous improvement of the IT service by providing feedback on recurring issues and suggesting enhancements.

JR MAITENANCE ENGINEER – KIWIBOT – Jul 2023 – Dec 2023 – COLOMBIA

assumed responsibility for overseeing the smooth operation of a fleet of 15 delivery robots, executing the thorough inspection, diagnostics, troubleshooting and performing the necessary repairs. I successfully maintained the robots in optimal working condition, applying my skills in electronic diagram analysis and proficiently troubleshooting and repairing electronic boards within the mechatronic system.

VISITING UNDERGRADUATE RESEARCHER – QUEENS UNIVERSITY – Aug 2022 – Dec 2022 – KINGSTON, CANADA

Contributed to a research project focused on developing a haptic actuator device powered by a stepper motor. Applied control techniques to optimize the motor's performance, ensuring it met the precise movement requirements necessary for haptic applications, particularly in interfacing with virtual environments and teleoperated robots

ENGINEERING INTERN – COLOMBIAN AIRFORCE – 10 Apr 2022 – 10 Aug 2022 – MADRID, COLOMBIA

Student internship focused on the development and research in the design and construction of remotely piloted aircraft. Development of a drone's obstacle avoidance system were commands were controlled by a microcontroller and decision taken based on signal feed from single beam lidar sensors.

TUTOR – UNIVERSIDAD NACIONAL DE COLOMBIA – 30 Sep 2021 – 9 Apr 2022 – BOGOTÁ DC, COLOMBIA

Under this tutoring program. I was responsible of helping students solve their question by providing discussions, theorical explanation and practical examples of code related to the courses: basic programming, object orientated programing, data structures and numerical methods

JUNIOR TEACHER ASSISTANTS NUMERICAL METHODS – UNIVERSIDAD NACIONAL DE COLOMBIA – 29 Feb 2020 – 30 Jun 2020 – BOGOTÁ DC, COLOMBIA

Assisted in the smooth delivery of the course by developing, implementing, and presenting representative examples of equation solvers, utilizing mathematical software tools such as MATLAB

EDUCATION AND TRAINING

JUN 2016 – MAY 2024 Bogotá DC, Colombia
MECHATRONIC ENGINEER Universidad Nacional de Colombia

AUG 2022
COLLABORATIVE ROBOT SAFETY: DESIGN & DEPLOYMENT University at Buffalo & Coursera

Website https://www.coursera.org/account/accomplishments/verify/WCS4ZHKXK2EV

SKILLS

Good familiarity with MATLAB, Simulink | Modelling, Simulation and Signal Processing Software: SIMULINK, LabVIEW | troubleshoot | Document management | ROS | Python | Linux | fusion360 | CAD modeling | 3D printing

HONOURS AND AWARDS

1 MAR 2020
Winner of Mathworks minidrone competition – Mathworks

I lead the winning team at MathWorks' parrot minidrone competition Colombia 2020. The work consisted on developing a flight algorithms so the drone could follow a pathway identified via cameras, as part of my contributions I worked on developing the control policy needed for the robot to follow a path-track based on thecamera and ultrasound sensors.

Link https://www.mathworks.com/academia/student-competitions/minidrones/minidrone-masters.html

DEC 2021
Outstanding volunteer at Ceimtun-RAS – Colombian National University RAS chapter

Was awarded by Ceimtun-RAS during the year 2021 for his outstanding participation while helping out with the development of challenges for UNrobot competition.

PROJECTS

SEP 2021 – APR 2022
Stewart Gough platform restoration

Work on the restauration and put back in service of the Stewart Gough platform located at the mechatronics lab.

Link https://github.com/jsduenass/Stewart_Gough_platform_UNAL/tree/upkeep

MAY 2022 – JUN 2022
robocup arm challenge competition

participate in the RoboCup Autonomous Robot Manipulation(ARM) Challenge, which consist in the implementation of perception and control algorithms in MATLAB and Simulink to grasp and manipulate bottles and cans within a table to classify them into two bins

Link https://github.com/cychitivav/robocup_arm_challenge

14 SEP 2021 – 14 NOV 2021
UNrobot competition simulation challenges

As part of the UNrobot competition, a robotics competition organised by the IEEE's RAS chapter, I help develop and organize and set up the enviroment for the simulation competitions. This competition consisted on controling a

differential robot reaching some target points and while avoiding obstacles. The competition was developed in a virtual enviroment based on matlab and robotics playground.

Link https://www.youtube.com/watch?v=syOV7jXzFqI

VOLUNTEERING

DEC 2022 – JUN 2023

Open source contributor

Participate in the ROS2 documentation translation into spanish initiative. And bring down the language barrier that might from getting interested in robotics.

Link https://github.com/ROS-Spanish-Users-Group/ros2_documentation

2021 – CURRENT Bogotá

CEIMTUN-RAS group member

As part of the student group CEIMTUN-RAS I helped out in it's mission of encouraging and promoting robotics, automation and their research. Help out in the organization "UN robot 14" robotics competition and help setup the simulation challenges.

Upper-Year Peer Mentor

Be part of the university program Upper-Year Peer Mentor and offer guidance and support to students in the first-year physics course specifically in the subject of fundamentals of mechanics.

LANGUAGE SKILLS

Mother tongue(s): **SPANISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user