Daniel Vieira

System Engineer

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about me

I am an engineer that believes in contributing to the world with creativity and innovation. I have a strong background working with Matlab/ Simulink/C/C++ in the Control System context and solid programming skills. I have a passion to use engineering to get to new solutions and to be involved in a challenging environment and energetic people.

personal

Daniel Vieira
Brazil
1985

skills

Control System, Model Based Design, System Engineering, Software Design

programming

Matlab/Simulink, Python, C/C++, C#, Typescript, Git, Linux

engineering

Control Theory, Flight Dynamics, Orbital Mechanics, Model Based Design, Hardware in The Loop, Data Analysis, Mathematical Modeling

hobbies

Cycling, Running, Animes, Paragliding, Things that fly

languages

Portuguese: mother tongue
English: professional

work experience

ICT Group, Software Designer

(2021 - current), (Eindhoven, NETHERLANDS)

- Designed software for the high-tech industry, primarily embedded software developed in C++, Python and C#

- Implemented MBT (Model Based Testing) in Thermofisher, this was integrated in the test pipelines and CI/CD for better software quality.

- Collaborated with various teams to understand system requirements, enabling accurate model descriptions and tests reflective of real system behavior.

AVIBRAS, Product development Engineer

(2012 - 2021), (São José dos Campos, BRAZIL)

- Responsible for the design of the guidance and control system for the Brazilian guided rocket.

- Interfaced with structure and aerodynamics teams to develop a non-linear simulation in MATLAB/SIMULINK to validate performance analysis and control law design testing.

- Aided in procurement of GNC sensors & actuators, ensuring alignment with project specifications and performance constraints.

- Assisted Integration teams in Verification & Validation processes for subsystems using Hardware in the Loop (HIL) and SIMULINK simulations to emulate flight scenarios.

- Undertook the role of a field engineer during product development campaigns, focusing on mission planning, flight performance analysis, data reduction, and analysis.

- Created a Python tool that encapsulates a mathematical model initially developed in Matlab/Simulink, transpiled to C++ code, and then compiled into a Python library for easy non-linear simulations and analysis. This tool is designed for easy distribution to other users, facilitating widespread use and collaboration.

INSTITUTE OF AERONAUTIC AND SPACE, Researcher

(2011 - 2012), (São José dos Campos, BRAZIL)

- Worked as a researcher at the Institute of Aeronautics and Space, focusing on the Satellite Launch Vehicle.

- Developed an attitude controller for a spinning second-stage vehicle to engage trajectory using ON-OFF actuators.

- Created digital models for integration into Hardware In The Loop (HIL) simulations of the launcher.

education

Aeronautics Institute of Technology – ITA

(2019 - Current), (São José dos Campos, BRAZIL)

Ph.D.: Systems and Control Engineering

Robust Control of Linear Systems with Switched Actuators Subjected to Dwell-Time Constraints

National Institute for Space Research - INPE

(2012 - 2015), (São José dos Campos, BRAZIL)

Master: Space Mechanics and Control

Robust Control of Linear Systems with Switched Actuators Subjected to Dwell-Time Constraints

Federal University of Uberlândia - UFU

(2004 - 2010), (Uberlândia, BRAZIL)

Bachelor: Mechatronic Engineering

Robust Control of Linear Systems with Switched Actuators Subjected to Dwell-Time Constraints