Farid Naissir Jaraba

MSc. in Space Engineering, BSc. in mechanical engineering
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Work Experience

Researcher - *Bundesanstalt für Material Forschung- und Prüfung (BAM)*

August 2024 – March 2025 - (8 months)

- Organized and analyzed thermographic data from non-destructive testing to precisely evaluate temperature distributions and hotspot formation in the melt pool during Powder Bed Fusion additive manufacturing
- Calibrated hyperspectral cameras and supported the design and optimization of test rigs for in-situ high-temperature measurements, enabling the correlation of process parameters (e.g., laser power, scan speed) with material behavior
- Developed a Python-based dual-port camera merging algorithm that synchronizes multiple spectral channels, delivering high-fidelity temperature profiles used to validate process simulations

Operation Supervisor (Maintenance and Logistics) – *Expreso Brasilia S.A.*

June 2018 – August 2021 (3 years, 2 months)

- Planned and executed mechanical maintenance programs for the company's vehicle fleet, ensuring round-the-clock operational readiness and compliance with safety standards.
- Managed driver scheduling and vehicle assignments, delivered onboarding and advanced training, and implemented performance monitoring to boost utilization
- Handled client contract requirements: developed optimized routes, coordinated emergency responses, managed billing cycles, and resolved service non-conformities
- Achievements: Applied Lean Six Sigma DMAIC methodology to analyze operational data and streamline fleet schedules, achieving an 11 % reduction in fuel consumption
- Developed and tracked KPIs for maintenance and logistics, delivering over $9,000 in project cost savings and enabling organizational restructuring

Assistant Designer – *Blue Studio Factory*

August 2017 – December 2017 (5 months)

- Contributed to the design and development of a prototype all-terrain recreational vehicle, focusing on chassis layout and suspension system
- Created production-ready 3D CAD models using SolidWorks and performed structural evaluations with ANSYS
- Supported iteration between design and prototyping stages, ensuring feasibility for fabrication and mechanical performance requirements

Education

MASTERS'S FOR SPACE ENGINEERING | 2022-2025

Technische Universität Berlin, Berlin, Germany

- Relevant Courses: Satellite Technology, Space systems design project, Space electronics, Radiation Workshop.

BACHELOR'S DEGREE IN MECHANICAL ENGINEERING | 2014-2018

Universidad del Norte, Barranquilla, Colombia.

- ´Outstanding Student´ recognition for high grades
- Relevant Courses: Relevant Courses: Combustion Engines, Heat and Mass Transfer, Manufacturing Processes, Material Sciences, Design of Mechanical Systems.

REU (RESEARCH EXPERIENCE FOR UNDERGRADUTES) | 2017

Texas Tech University, Lubbock, TX, USA.

Scholarship for exchange summer program. Relevant course: Solar Energy Fundamentals

Engineering projects

BEEGND-4 Ground Station Upgrade (TU Berlin, 2023)[1]

- Coordinated mechanical and RF requirements as Systems Engineer to ensure stable satellite communication
- Led mechanical design for antenna systems, including alignment and signal path optimization

European Rover Challenge (ERC '23 & '24, Kielce, Poland)[1]

- Designed and manufactured rover chassis using SolidWorks and Ansys Workbench
- Integrated robotic arm into overall system; achieved 7th place in international competition

Cold Gas Test Stand BEARS (TU Berlin, 2022–2023)[1]

- Developed Arduino IDE control software for automated test operations
- Assembled and commissioned piping system for propulsion concept validation

[1]Details & images: https://faridnj8.github.io/faridnj_portfolio/

Languages

- **German** (B2)
- **English** (C1)
- **Spanish** (Native)