JOÃO BADAN

👤 27 years old

🌐 Italian and Brazilian national

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PRODUCT ENGINEER

EDUCATION

2012 - 2018

UNIVERSIDADE FEDERAL DE UBERLÂNDIA - Uberlândia, Brazil
Bachelor in Mechanical Engineering

2015 - 2017

ISAE SUPMÉCA - Paris, France
Master in Mechanical Design & Simulation

WORK EXPERIENCE

Jan 2021
Sept 2022

LIEBHERR AEROSPACE via Capgemini - Toulouse, France
Product Manager

Part of the team responsible for the development of air conditioning Packs and Humidifiers for regional and business aircraft. Main accomplishments:
- Management of the development of an avionics cooling Pack from PDR to SOF
- Coordination of qualification and V&V activities for the Pack and Humidifier of a business aircraft
- Redaction of system and equipment specifications as well as technical documentation
- Coordination of testing campaigns, validation of thermal and vibration performance reports
- Development of numerical tooling to automate data workflows

2019 - 2020

CAPGEMINI ENGINEERING - Toulouse, France
Product Engineer

Part of Capgemini's product and system management team. Worked mainly in aerospace with punctual interventions on alternative industries. Main accomplishments:
- PLM support and redaction of qualification documents of nacelle joints and fasteners for **Safran**
- Coordination of R&D activities for **Liebherr Aerospace**: Intervened directly on the development of two innovative products.
- Helped organise workshops to clarify the scope of our internal team in the context of Capgemini, identify new opportunities and diversify our offerings

2018 - 2019

KRAFT HEINZ via Usimontec - Goiânia, Brazil
Product Designer/Business Developer

Usimontec is a machine shop providing Kraft Heinz maintenance team. I intervened on technical/comercial roles as the focal point of Usimontec's business in a newly opened Kraft Heinz industrial plant. Main accomplishments:
- Design and comercial propositions of mechanical assemblies for industrial packaging machines
- Technical support over the installation and commissioning of new industrial production lines
- System architecture design and comercial proposition of an autonomous lid placing machine
- Helped grow Usimontec's business inside Kraft Heinz leading a team of 5 technicians and structuring an industrial valve repair service. Directly contributed to more than 150k€ in gross revenue

TECHNICAL SKILLS

- 10+ years of programming experience. Python, Matlab, C and Rust
- Practice with machine learning algorithms including Neural Nets
- Python data analysis frameworks such as Pandas and Matplotlib
- CAD, CAE, MBSE and PLM tools including Catia V5, ANSYS Mechanical, Dymola and SmartTeam

LANGUAGES

- Portuguese - Mother Language
- English - Bilingual, Toeic: 980/990
- French - Bilingual
- Italian - Intermediate

INTERNSHIPS

CNR ISTITUTO MOTORI - Naples, Italy
2017 - 2017
R&D Intern

Internship on the NVH department of a national Italian automotive research centre. Main accomplishments:
- Execution of experiments to characterise acoustical and gas emissions data of combustion vehicles
- Used machine learning to implement an oil pump cavitation detector
- Developed a neural network machine learning model to predict the acoustical behaviour inside a vehicle's cockpit. Results published on a 2018 SAE technical paper

TECHNOPLANE - Paris, France
2015 - 2016
Product Development Intern

Internship on a French startup building a VTOL hybrid propulsion passenger aircraft. Part of a technical studies international team. Main accomplishments:
- Proposition of different aircraft architectures, helped develop a completely parametric model that enabled us to quickly iterate and analyse different designs
- Feasibility study of an hybrid aircraft propulsion solution. Contacted suppliers in Europe and China
- Worked on the management of three international teams
- Project priorities study and created a 6 months future activities roadmap

EXTRACURRICULAR ACTIVITIES

TUCANO AERODESIGN - Uberlândia, Brazil
2013 - 2015
Product Engineer

Tucano is an aircraft development team, designing, manufacturing and operating remote controlled aircraft for the Brazilian SAE AeroDesign competition, organised annually by EMBRAER. I intervened on structural design, software development and manufacturing of an electrical aircraft weighting 1kg (empty) capable of carrying 40 tennis balls. Main accomplishments:
- Worked on the development of an internal software tool to procedurally generate thousands of aircraft variations and find the optimal one via genetic algorithms
- Managed a team of 2 people doing structural pre-sizing and mechanical simulations
- Experimentally characterised the mechanical properties of our internal composite materials. With the aid of topological optimisation I reduced a composite landing gear weight by more than 30%
- We've won the second place in the 2014 edition of the competition (among 50 international teams)

HOBBIES

- Programming: Currently building a CPU Raytracer engine written in Rust
- Photography: Architecture and landscapes
- Sports: Hiking, cycling and running
- Reading: Non-fiction, psychology, economics, philosophy and biographies