David Bensoussan Software Engineer specialized in robotics, devops and systems

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I integrate new and established technologies in robotics and IoT, with a proven track record of implementing innovative solutions to complex challenges.

At Brisa Robótica, which I **co-founded**, I led efforts to transform non-autonomous machines into an autonomous fleet, while at Synapticon, I developed software stacks for an **autonomous lawnmower** and **scalable test infrastructure** for embedded systems.

As a skilled technical leader experienced in remote work and team management, I am seeking new opportunities in **Hamburg or remotely**.

Experiences

Brisa Robótica

From nothing to co-founding a 6M$ US Brazilian robotics startup with a team of 10 people

October 2019 -> March 2023 - Full time - Recife, Brazil and Hamburg, Germany

- **(Entrepreneurship)** Led a remote team of software and hardware engineers to **transform manual machines into an autonomous fleet**, overcoming technical challenges like reverse-engineering forklifts and pallet-jacks. Engineered custom data dashboards for KPI optimization and adapted business strategy with cofounder during COVID-19 pandemic.

- **(Robotics)** Created a **modular data collection framework** for autonomous robotics solutions used in 4 projects.
  ROS1,2, Fluent Bit, On-premise, AWS, C++, Go, C, data collection, Docker, Git, Github Actions, Python, MinIO, PostgreSQL

- **(Web)** Developed **4 dashboards for autonomous robotics solutions**: backend, frontend, public API and documentation.
  On-premise, AWS, API development, Flask, FastAPI, Bash, CI, CD, Docker, Git, Github Actions, Python, PostgreSQL, ROS1,2

- **(Sales)** Collaborated with clients to **identify growth opportunities** and develop tailored data solutions to optimize their KPIs.

- **(Marketing)** Crafted 2 websites and produced **marketing materials**: videos and social media content.

Unfortunately, Brisa Robótica faced challenges with high import taxes on hardware and a small and risky market for automation in Brazil, which made it difficult to secure key clients. Despite our hard work and innovative solutions, these factors ultimately prevented us from achieving financial sustainability.

LinkedIn
AWS Robotics Blog
In "Empresas e Negócios", one of the most important newspapers in Brazil
In "SC inova", the most important newspaper in Santa Catarina, heart of industry in Brazil

Synapticon

Full stack robotics for an autonomous lawnmower targeting the consumer market

Continuous integration and testing for robot and hardware

March 2015 -> October 2019 - Full time - Stuttgart, Germany

- **(High level robotics)** Implemented software for **localization, navigation and motor control boards**. Automated **acceptance test reports** and tracked requirements. Collaborated with product and safety managers.
  cartographer, design patterns, openhtf, Pytest, Python, Redmine, ROS, static analysis, sphinx, tuning, TDD

- **(Embedded) Released 15 applications and libraries** for XMOS multicore chips, including sensor data acquisition and motor control. Refactored code to reduce memory usage by 25%.
  C, I2C, SPI, tuning, TDD, UART, XC (close to C)

- **(Linux) Crafted and optimized embedded Linux distros**, for real-time capabilities on robotics software stacks, achieving sub-6 sec boot times. Debugged and optimized software libraries for arm64.
  arm64, AWS, Bash, beaglebone, cmake, cross compiling(arm/arm64), Docker, Linux, raspberrypi, real-time, systemd, yocto

- **(Devops)** Designed CI/CD pipelines with **hardware-in-the-loop**, automated processes, QA for 4 projects, mentored interns.
  AWS, on-premise, Bash, CI, CD, Docker, Git, Jenkins, Packer, Python, Terraform

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🌎 Freelancing

Devops Manager / Linux and ROS development

October 2017 -> October 2018 - Part time

Delivered pipelines and containerized applications for clients remotely, mostly devops topics, hourly and contract based:

- **Implemented CI/CD processes**, containerized 100-ish applications, providing robust development environments
- Troubleshooted ROS software, packaged ROS applications in containers
  AWS, autoscaling, Docker, Hetzner, Jenkins, remote, ROS, SQL

🇫🇷 Maintool

Heart rate sensor design

April 2014 -> July 2014 - Student internship - Paris, France

Designed and programmed watch strap's main sensor with LEDs and photodiodes.

Open Source

ROS2 Data Collection Framework—Integrated **ROS 2 data pipelines for analytics**, not live monitoring. Collect, validate, and send data to create APIs and dashboards.

Gazebo world to ROS 2D Map plugin— **Convert a Gazebo world environment to a 2D map** for nav2 map server. Helps to avoid robot exploration and redoing mapping.

Pre-commit hooks for ROS2— Enhance ROS2 workflow by implementing pre-commit hooks to ensure metadata is set and versions are consistent across all packages before release.

Languages

French: Native / Bilingual
English: Native / Bilingual
German: Conversational
Brazilian portuguese: Conversational

Education

ESIEA — **Graduate school of Engineering - Master of Science**

2010 - 2015 Embedded systems major, 3 years in robotics student organization.