David Bensoussan

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"A true leader is one who knows the way, goes the way, and shows the way."
John C. Maxwell

Software Engineer specialized in robotics, devops and systems

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 6 team members' 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.

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.

Therefore, I am seeking a new opportunity in **Hamburg or remotely**.

Experiences

Brisa Robótica

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

Co-founding a 6M$ US Brazilian robotics startup with a team of 10 people from scratch

- **Defined and pivoted business and sales strategy** with cofounder during COVID-19 pandemic.
- Overcame technical challenges: **reverse-engineered 2 forklifts and a pallet-jack** and created a universal data platform.
- Created a **modular data collection framework** for autonomous robotics solutions used in 4 projects.
  ROS1,2, Fluent Bit, C++, Go, C, data collection, On-premise, AWS, Docker, Git Actions, Python, MinIO, PostgreSQL
- 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 Actions, Python, PostgreSQL, ROS1,2
- Identified growth opportunities with clients and optimized KPIs with tailored data solutions, **yielding to 30% improvement**.
- Crafted 2 **websites** and produced **marketing materials**: videos and social media content.
- Wrote an article published in the AWS Robotics Blog.
- Fundraising detailed in Empresas e Negócios, one of the most important newspapers in Brazil.
- Achievements reported in SC inova, the most important newspaper in Santa Catarina, heart of the industry in Brazil.

Synapticon

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

Full stack robotics for an autonomous lawnmower targeting the consumer market
Continuous integration and testing for robot and hardware

- Implemented software for **localization, navigation and motor control boards**. Automated **acceptance test reports** and tracked requirements.
  Python, pytest, ROS1, Redmine, cartographer, openhtf, static analysis, sphinx, TDD
- **Released 15 applications and libraries** for XMOS multicore chips, including sensor data acquisition and motor control. Refactored code to reduce memory usage by 25%.
  XC (close to C), C, I2C, SPI, TDD, UART
- **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.
  Yocto, Linux, AWS, cross compiling(arm/arm64), arm64, Bash, beaglebone, cmake, Docker, raspberrypi, real-time, systemd
- Designed CI/CD pipelines with **hardware-in-the-loop**, automated processes, QA for 4 projects, mentored interns.
  Python, pytest, On-premise, CI, CD, Docker, Git, Jenkins, Bash

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🌍 Freelancing

October 2017 -> October 2018 — Part time

Devops Manager / Linux and ROS development

- 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.
  ROS1, AWS, autoscaling, Docker, Hetzner, Jenkins, remote

Maintool

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

Heart rate sensor POC

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

Open Source

ROS 2 Data Collection Framework: Integrated **ROS 2 2 data pipelines for analytics**, not live monitoring. Collect, validate, and send data to create APIs and dashboards.
ROS 2, C++, Fluent Bit, C, Go, Python, Gazebo, Markdown documentation, Github actions, Docker
Gazebo world to ROS 2D Map plugin: **Convert a Gazebo world environment to a 2D map in seconds** for nav2 map server. Helps to avoid robot exploration and redoing mapping.
ROS 2, Gazebo, C++
Pre-commit hooks for ROS 2: **Enhance ROS 2 workflow** by implementing pre-commit hooks to ensure metadata is set and versions are consistent across all packages before release.
Python, Bash, ROS 2

Languages

French: Native
English: Professional proficiency
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.

Interests

Cooking traditional food: I love sharing my cultural heritage and bringing people together through the delicious flavors and aromas of my traditional dishes.
Hiking: Exploring trails, challenging myself, and immersing in nature's beauty.
Learning languages: I enjoy exploring new cultures and connecting with people through learning their language.
Jewish studies: I enjoy spending time studying Jewish texts, learning about its teachings and values, sharing it with others and applying their wisdom to my daily life.