David Bensoussan Software Engineer specialized in robotics, devops and systems

bensoussan.xyz

I integrate new and established technologies in robotics and IoT, with a proven track record ■ d.bensoussan@proton.me of implementing innovative solutions to complex challenges.

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david-bensoussan-715a0b72

Hamburg, Germany

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.

(+33)659971070

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 0 to CTO of a 6M\$ US Brazilian robotics startup (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. Engineerined 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

<u> Synapticon</u>

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

Freelancing

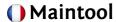
Devops Manager / Linux and ROS development

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

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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

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

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

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

Languages

<u>ESIEA</u>

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

Brazilian portuguese: Conversational

Education

2010 - 2015

Graduate school of Engineering - Master of Science

Embedded systems major, 3 years in robotics student organization.