Gabriel F P Araújo

Robotics Developer

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github.com/Gastd

Nothing in life is to be feared, it is only to be understood
Marie Curie

Skills

Expert skills

Hardware	Robotic Sensors (Perception, Localization), PCB Design, CAD, Hardware Debugging
Algorithms	Autonomous System Testing, Kalman Filters, Vehicle Control, Obstacle Avoidance
Systems Engineering	Development Models, Field Experiments, Control Systems

Development

Languages	C/C++, Python, Shell/Bash, GNU Make	Tools	CMake, Doxygen, Docker, GDB, Git, Valgrind, Vim
Frameworks	Robot Operating System (ROS), GoogleTest, CMake	Debugging	GDB, Valgrind
Applications	MatLab, LaTeX, Fusion 360, SolidWorks, Eagle, MS Office, Inkscape		

Education

2021 **B.S. in Mechatronics Engineering**, *University of Brasília*, Brasília, Brazil.

Experience

2021 – today **Jr Software Developer**, *Automni*, São Paulo, SP, Brazil.

2020 – 2021 **Intern (*remote*)**, *Automni*, São Paulo, SP, Brazil.

2014 – 2020 **Undergraduate Researcher**, *LARA (Automation and Robotics Laboratory)*, University of Brasilia, Brasilia, Brazil.

- SDR development for mobile robots localization using multi-constellation GNSS systems.
- Creation of a "chat-bot" system for controlling a mobile robot using speech recognition.
- Implementation of an indoor localization system using EKF and ARToolKit tags.
- Program ROS drivers for GPS and IMU sensors.

2019 – 2019 (3 months) **Intern**, *LandSense Soluções Tecnológicas*, Brasilia, Brazil.

- Embedded software development.
- Design and implementation of a Bluetooth mesh protocol.
- Main technology: C/C++.

January 2017 **Teacher Assistant – Computational Fundamentals of Robotics**, *University of Brasilia*, University of Brasilia, Brasilia, Brazil.

- Elaborate challenges and assignments.
- Documentation of the achieved goals.

September 2016 **Teacher**, *University of Brasilia*, University of Brasilia, Brasilia, Brazil.

- Main teacher at ROSJoy Course.
- Knowledge network: Robotics, Python, and ROS.

2017 – 2017 (3 months) **Software Developer – Google Summer of Code 2017 participant with GNSS-SDR**, *University of Brasilia*, University of Brasilia, Brasilia, Brazil.

- Expansion of the GNSS-SDR software to GLONASS system.
- Implementation of both Acquisition and Tracking blocks of the GLONASS to GNSS-SDR.
- Further details: `https://gist.github.com/Gastd/f46a2bd78dcc11984e69eb7cbc49f8a4`

2014 – 2015 **Undergraduate Researcher**, *CIC UnB (Computer Science Department)*, University of Brasilia, Brasilia, Brazil.

- Development of an autonomous driver to the TORCS simulator in order to compete in the Simulated Car Racing Championship, a former GECCO Competition.
- 5th place in the SCRC 2015.
- Confection of a paper describing the pilot development, DOI: 10.1109/SBGames.2015.19

2013 – 2014 **Software Developer**, *LIPIS/LEI (Laboratory of Instrumentation and Processing of Images and Signals)*, University of Brasilia, Brasilia, Brazil.

- Implementation of an autonomous Antibiotic sensitivity testing.
- Algorithm previously designed by LIPIS researchers.
- The solution uses OpenCV and C++.