Gabriel F P Araujo

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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
Algorithm Development	Autonomous Systems 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, GitHub, Vim, GDB, Valgrind
Source Management	Git, SVN	Frameworks	Robot Operating System (ROS), GoogleTest
Applications	MatLab, LaTeX, Fusion 360, SolidWorks, Eagle, MS Office, Inkscape	Operating Systems	GNU/Linux (Ubuntu), Windows

Education

Undergraduate **B.Eng. in Mechatronics Engineering**, *University of Brasilia*, *Brasilia, Brazil*.

Experience

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.
- Technologies: OpenCV and C++.

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.
- Paper describing the pilot development, DOI: 10.1109/SBGames.2015.19

2016 **Teacher**, *University of Brasilia*, Brasilia, Brazil.
- Main teacher at workshop in ROS.
- Knowledge network: Robotics, Python, and ROS.

2017 **Teacher Assistant – Computational Fundamentals of Robotics**, *University of Brasilia*, Brasilia, Brazil.
- Elaborate challenges and assignments under the Professor's supervision for Computational Fundamentals of Robotics course during UnB Summer School and further documentation of the achieved goals.

2017 **Software Developer – Google Summer of Code 2017 participant with GNSS-SDR**, *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`

2019 **Intern**, *LandSense Soluções Tecnológicas*, Brasilia, Brazil.
- Embedded software development.
- Design and implementation of a Bluetooth mesh protocol.
- Main technology: C/C++.

2013 **Undergraduate Researcher**, *LARA (Automation and Robotics Laboratory)*, University of Brasilia, Brasilia, Brazil.
- Implementation of perception system for cooperative robots.
- SDR development for mobile robots localization using multi-constellation GNSS systems.
- Development of a "chat-bot" system for controlling a mobile robot using speech recognition.
- Build an indoor localization system using EKF and ARToolKit tags.
- Implementation of ROS drivers for GPS and IMU sensors.

Activities and Societies

UnBall Robot Soccer Team	Humanoids Group
Study Group	Probabilistic Robotics Study Group
Automation and Robotics Laboratory	AMORA – Autonomous Mobile Robots Algorithms, Cooperative Robotics