Adriano de A. A. Mourão

Senior Software Engineer

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Work Experience

09/2020–present **Senior Software Engineer**, ACCENTURE. Belo Horizonte, MG - Brazil.

10/2019–09/2020 **Machine Learning Software Engineer**, ACCENTURE. Belo Horizonte, MG - Brazil.
Working in a Research, Development and Innovation (RD&I) project focused on Deep Learning-based Computer Vision and Video Analytics. Overcoming challenges related to object detection, pose estimation, tracking, activity recognition. Contributions on developing the solution as a whole: initial exploratory data analysis and preprocessing (cleaning, labeling, and data augmentation); designing and training machine learning models; analyzing results through different performance metrics; developing and supporting libraries and modules required by the software architecture. (Python, Bash, TensorFlow, Keras, Flask, Swagger, Apache Pulsar, Docker, Git, AWS, Azure DeveOps).

01/2015–03/2016 **Software Engineer**, CADENCE DESIGN SYSTEMS. Belo Horizonte, MG - Brazil.
Analysis of failures and bugs of a Formal Verification Tool, JasperGold, written in C++. Developed and managed a complex distributed regression system. Developed Verilog/VHDL designs and Tcl scripts of different complexities for a complete testing coverage of the tool. Developed Python and Bash scripts for automating many different tasks. (Python, Django, C/C++, Tcl, Bash, Verilog, VHDL, Mercurial, Jira, Formal Verification).

04/2014–12/2014 **QA Intern**, CADENCE DESIGN SYSTEMS/JASPER DESIGN AUTOMATION. Belo Horizonte, MG - Brazil.
Tested and debugged a formal verification tool, JasperGold, written in C++. Managed a regression system. Developed Verilog/VHDL designs and Tcl scripts of different complexities for a complete coverage of the tool. (Python, C/C++, Tcl, Bash, Verilog, VHDL, Mercurial, Jira, Formal Verification).

03/2010-8/2012 **Research Intern Fellow**, CORO, UFMG. Belo Horizonte, MG.
Developed calibration method for gyroscopes and accelerometers of an IMU – Inertial Measurement Unity – using an industrial robot. I also developed an C++ application to control the robot on real time, collect the data, and execute an offline optimization. CNPQ provided a scholarship and funds for this project. (C/C++, RTAI, Matlab, Bash, genetic algorithms, robotics kinematics).

Education

08/2009–10/2018 **Bachelor's degree of Control and Automation Engineer**, *Federal University of Minas Gerais (UFMG)*. Belo Horizonte, Minas Gerais - Brazil.
Topic: clDES Library: Parallel Algorithms for Discrete Event Systems on Heterogeneous Platforms. (DES, C++14, OpenCL, OpenMP).

08/2012–08/2013 **Sandwich Integrated Master's in Electrical and Computer Engineering**, *University of Coimbra (UC)*. Coimbra - Portugal.
Topic: Robotics, Software Engineering, UX and Embedded Systems.

Computer skills

General Applications, Programming Languages and Research Tools. Highlight for: C/C++11/14, PYTHON (NUMPY, KERAS, TENSORFLOW, OPENCV, FLASK), JAVA, LINUX, GPGPU, GIT, LaTeX, AWS, GOOGLE CLOUD, AZURE, APACHE PULSAR, OPENCL, OPENMP, GCC/CLANG, CMAKE.

Fellowships

08/2012–08/2013 ***CNPq Sandwich Graduation - Science Without Borders***, *University of Coimbra,* Coimbra - Portugal.

03/2010–07/2012 ***Institutional Scientific Initiation Scholarship Program (CNPq)***, *CORO, UFMG,* Minas Gerais - Brazil.

Publications

Conference Proceedings **MOURAO, A.A.A.** ; PEREIRA, G. A. S. *Calibração de girômetros utilizando um manipulador robótico industrial* In: Congresso Brasileiro de Automática, Campina Grande, PB. Anais do XIX Congresso Brasileiro de Automática (CBA 12) p. 1863-1869.