Mateus Abreu de Andrade

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Experience

R&D Embedded Software Engineer

WEG | Jaraguá do Sul

Jun 2020 - present

- Development of firmware projects for variable-frequency drive products according to Scrum Project Management & Methodology - Product backlog, Sprint backlog, Sprint and Working Increment of the Software.
- Technical Environment: Documentation development for factory testing and Experimental validation - functional testing, configuration testing, EMC/EMI testing, performance testing - load cell, dynamometer, encoder, power analyzer, power meter.
- Programming Languages: C, Python and Bash.
- Softwares: E² Studio Renesas, MPLab, Visual Studio Code, Jira, SVN, Git, Sharepoint, SAP and Microsoft Office.
- Development of hardware plug-ins for variable-frequency drive products following the complete hardware development chain – ADDIE process (Analysis, Design, Development, Implementation, Evaluation).
- Technical Environment: SAP, FMEA, ADDIE process, EMC/EMI standards compliance (IEC), Components development, Circuit simulation, Schematics and BOM generation; PCB design, Documentation development for factory production and Experimental validation - functional testing, EMC/EMI testing, stress testing, reliability testing.
- Softwares: Altium Designer, PSIM, SVN, SAP and Microsoft Office.

R&D Hardware Engineer

WEG | Jaraguá do Sul

Feb 2018 – Jun 2020

- Development of electronics projects for variable-frequency drive products evolving the hardware complete development chain – ADDIE process (Analysis, Design, Development, Implementation, Evaluation).
- Technical Environment: SAP, FMEA, ADDIE process, EMC/EMI standards compliance (IEC), Components development, Circuit simulation, Schematics and BOM generation; PCB design, Documentation development for factory production and Experimental validation - functional testing, EMC/EMI testing, stress testing, reliability testing.
- Softwares: Altium Designer, PSIM, Solidworks CAD, SVN, SAP and Microsoft Office.
- Development of CNC machines for prototyping mechanical structures of products providing reduction in costs and project validation time - FFF 3D Printing and milling.
- Softwares: Altium Designer, Onshape CAD, Solidworks CAD, Cura Software, Arduino IDE, Octoprint and Microsoft Office.

Bachelor's thesis

WEG | Jaraguá do Sul

Jul 2017 - Dec 2017

- Replacement of a Fused Filament Fabrication (FFF) 3D printer by an open source software, hardware and firmware alternative model, developed at WEG Equipamentos Elétricos. The current printer is installed at the Center of Product Development and Research at WEG, although it does not fulfill completely the requirements for prototyping large parts, it is widely used by the staff of the department;
- Softwares: Altium Designer, Solidworks CAD, Ultimaker Cura, Arduino IDE and Microsoft Office.

Intern

WEG | Jaraguá do Sul

Feb 2017 - Jul 2017

- Follow-up of Microdrives Development Engineers in thermal, Electromagnetic compatibility (EMC) and Electromagnetic Interference (EMI) testings of electronic cards and Variable-frequency drives. Assisting them during the tests with the development of reports, as well as in the solution of possible problems that occurs in order to adapt the product to technical standards.
- Softwares: Altium Designer and Microsoft Office.

Hardware Engineer

UFSC Baja | Florianópolis

Jan 2015 - Dec 2016

- Baja SAE is more than motorsport, it is an engineering competition. In order to maintain and improve the quality of the projects and prototypes, embedded systems department division is responsible to design a data acquisition, storage and board system installed in the vehicle. Additionally, the system supports mechanical studies to design optimization of vehicle components and real parameters to feedback computational models;
- Softwares: Altium Designer, MATLAB, SolidWorks CAD, CorelDRAW, Arduino IDE and Microsoft Office.

Education

M.Eng Electronic Systems

UFSC

Sep 2019 - present

- Design and development of embedded systems, considering aspects of hardware and software with applications in the area of control and automation of electronic systems and processes, real-time systems and communication between devices. In this topic, it should be taken into account that for each application a set of requirements will be imposed on the embedded system to obtain the desired behavior.

B.Eng Control & Automation

UFSC

Aug 2012 – Dec 2017

- Strong knowledge in mathematics, physics and computing;
- General knowledge on electricity and mechanics - instrumentation and drive systems;
- Basic notions of economics, management and safety;
- Process control;
- Industrial computing;
- Manufacturing automation.

Voluntary

Judge / Technical Inspector

Baja SAE Brazil

Oct 2019 - present

- The role of the Technical Inspector is to ensure that the ATV is fabricated within the event specifications and satisfies all safety checks.
- The role of the Project and Report Judge is to evaluate the entire car at one time by an integrated panel of judges. The members of the judging panel each have a specialty: powertrain, chassis/ergonomics, electronics, steering/suspension/brakes and the bay leader.

Languages

Portuguese (Native) | **English** (Full professional)