

# Gabriel Lopes Lomeu Reis Oliveira

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CREA-RJ: 2022102981



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## Personal Introduction

I am a dedicated and proactive professional who carries out the activities that are ordered to me with seriousness, safety, efficiency and planning. I always seek to learn, both technically and personally, dealing in the best way possible with the people I work with, promoting harmony in teamwork.

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## Academic education

- SPECIALIZATION Automotive Software Developer, Federal University of Pernambuco - UFPE (October 2023) - Studying.

Training with an emphasis on embedded software development in C/C++, with preparation of Project Requirements, Configuration Management, Programming in Matlab and Simulink, RTOS, Function Architectures (CAN Network) and Unit Tests.

- BACHELOR Electrical Engineering, Centro Universitário de Volta Redonda - UniFOA (December 2020) - Completed

Technical training and practical skills acquired throughout the course. Experience in designing electrical, electronic and control systems. Comprehensive knowledge in circuits, power electronics, industrial automation and energy systems. Ability to solve complex problems and analyze data.

- Industrial Automation TECHNICIAN, College of the American Baptist Institute (November 2015) - Completed

Technical training with in-depth understanding of automated control systems and industrial instrumentation. Solid practical experience in programming programmable logic controllers (PLCs) and microcontrollers (Arduino) and process control systems. Technical skills in maintenance, installation and troubleshooting of industrial equipment.

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## Courses

- Full-Stack Software Developer Training, Driven Education - Studying;

It is an academic course with more than 1000 hours of study that deals with static front-end interface (Html/CSS) and dynamic interface (Javascript/AJAX). I also work with single page applications such as ECMAScript 6, React and Webpack. In the back-end and API area, I develop with Node.JS, Express and REST. About database and modeling, I work with SQL, PostgreSQL, Redis, MongoDB and also TypeScript. We use it with Docker and AWS in cloud

deployment and infrastructure. Linux and BASH are the operating systems used in all training. Git and GitHub for versioning and collaboration.

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## Qualification

Advanced knowledge in the English language;

Advanced knowledge in Excel;

Advanced knowledge in programming languages C/C++, JS, and intermediate in Python and Java;

Advanced knowledge in technologies: Matlab, Simulink, Linux, Git/GitHub, Jenkins;

Intermediate knowledge in technologies: Gradle and Docker;

Knowledge in project requirements development and interpretation;

Knowledge in software unit testing: Ceedling, Cunit, and Pytest;

Advanced knowledge of the React library and Axios connection, and the Node.js and Express frameworks;

Advanced knowledge in PostgreSQL and MongoDB databases;

Knowledge of the agile Scrum methodology.

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## Projects

**Technical Automation Engineering Final Project** - We developed a prototype of a cargo elevator using Arduino as the microcontroller, servo motors, and LEDs as actuators, magnetic Reed Switches, and push buttons as inputs. We wrote C code for Arduino and embedded it into our project, allowing floor selection and reading the elevator's position using the Reed switch on each floor.

**Electrical Engineering Final Project** - We created a prototype of a floor that generates electrical energy using piezoelectric transducers. We placed 100 transducers on a 50x50 wooden floor and, through testing, were able to generate alternating voltage and rectify it to direct current. As a result, we achieved peaks of approximately 100V with a low current of 20mA.

**Automotive Software Developer Final Project** - We are currently developing the software for an Adaptive Cruise Control system for an automobile. We formulated the project requirements, including functional and non-functional items, a Use Case Diagram, and traced all requirements down to the lowest level. Additionally, we performed modeling and simulation of the ACC using Matlab/Simulink, wrote the corresponding C code manually, and conducted code testing using CUnit. The entire project was version-controlled using GitHub.

As an addition to the project, we implemented Real-Time Operating System (RTOS) techniques by embedding the software on two Arduino Nano boards and an mcp\_can module. We installed Trampoline and modified the code to be called in tasks and communicate between the ECUs represented by the Arduinos.

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# Professional history

## **JCTM Comércio e Tecnologia Ltda.**

Electronics Technician - January/2021 - current

Monitor and provide technical support to analysis equipment that monitors atmospheric air quality and performs data control and analysis in Excel. Carry out corrective and preventive maintenance, interpret diagrams and prepare reports, in addition to taking care of calibrations for better reliability of the data sent to INEA. I am responsible for two complete automatic stations and guarantee the correct functioning of sensors, analyzers and data transmission.

## **CSN Cimentos**

Internship in Electrical Engineering - February/2019 to July/2020

I participated and developed maintenance shutdown strategies, in addition to monitoring and planning engineering projects. I carried out corrective, preventive and predictive maintenance in addition to documenting and creating spreadsheets in Excel and solving problems in Ladder logic and C++. One of the projects was the control of the PH of sewage water discharged into the Brandão River.

## **CSN- Companhia Siderúrgica Nacional**

Electrical Apprentice - January/2018 to November/2018

Apprentice at Senai in the FIRJAN system, with a workload of 4 hours per day. I participated in theoretical and practical learning in laboratories covering all building and industrial electrical parts based on NBR 5410 standards. The final work was a Semi-automatic Cold Steel Tube Cutter.

## **Saint-Gobain Canalização Ltda.**

Administrative Apprentice - December/2016 to October/2017

Create and update spreadsheets in Excel, organize and archive documents, prepare certificates, supply materials for the technical team and ensure the maintenance of 5S in the sector.

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## **Additional Information**

- Category AB license;
- Total availability for moving and traveling;
- Github link: <https://github.com/sironark>.