GUILHERME LEÃO

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EDUCATION

Technological Institute of Aeronautics (ITA) — SP, Brazil — Feb. 2016 - Dec. 2021
B.Sc in Electronics Engineering (Summa Cum Laude) — Overall Grade: 9.53/10

WORK EXPERIENCE

FieldPRO — Apr. 2021 - Present
Data Engineer and Data Scientist

- Managed and maintained ETL processes to ensure automated and seamless data pipeline operations, utilizing Celery for scheduling ETL jobs to extract data from various APIs and databases (such as MySQL and InfluxDB), Kubernetes for staging and production deployments, and Google Cloud Platform tools like Storage, Logging, and Build Engine for cloud computing.
- Updated APIs to give important historical and forecast data of the client farm, such as daily accumulated rain, crop accumulated degree-days, NDVI evolution, and many others, helping them to easily identify crop stage and their needs to improve yield.
- Enhanced the raining analysis provided to clients by improving our precipitation processing model accuracy by 10%, and by creating a product that provides rainfall heat-map for any of our client's farms by merging observational measurements with satellite raining estimates.
- Created a proprietary soil moisture estimate model that takes into account not only soil parameters such as the type of the soil but also the water balance (measured water inputs and outputs).

FieldPRO — Sep. 2021 - Apr. 2022
Hardware Developer

- Designed the schematic, defined the Bill of Materials (BoM) and projected the Printed Circuit Board (PCB) of a new version of the product expanding its capabilities to support several communication technologies (GSM, UMTS, LTE, Wi-Fi, Satellite, etc.), enabling installation in more challenging environments in Brazil.
- Updated the electrical windsock and anemometer circuits to reduce power consumption and developed a new supply system incorporating rechargeable batteries and solar panels to enhance the weather station's autonomy and minimize maintenance interventions.

GreenLab Solutions — Dec. 2020 - Aug. 2021
IoT Developer Intern

- Developed and installed electronics for automated hydroponics growing chamber, where environmental conditions such as humidity, temperature and CO_2 concentration were monitored and remotely controlled.
- Designed and programmed firmware for circuits using ESP8266 and ESP32 development boards, connected to various sensors, to monitor and control the internal microclimate of the growing chamber.

TUHH - Institut für Flugzeug-Systemtechnik — Oct. 2019 - Sept. 2020
Software Developer Intern

- Extended software-based tools used for cross-validation of aircraft systems, enabling engineers to identify problems and perform trade-offs during early design phases, resulting in reduced changes and cost savings during advanced stages of engineering.
- I also updated the user interface of the working programs to enhance the process of validating systems topologies, tasks allocations, and data flows in avionics systems. Unity 3D engine, C# scripting, and .NET framework were used during the process.
- Developed scripts to interpret CPACS geometric data and render them using 3D methods like Constructive Solid Geometry (CSG) to model desired aircraft models in the program's 3D environment.

EXTRACURRICULAR ACTIVITIES

RedeCASD — Mar. 2016 - Oct. 2017
Computer Network Administrator

- Managed and maintained the computer network of all students living in the university dormitory.

· Developed *InstaRancho* Android app (using Ionic Framework) used by students who attend the campus canteen.
· Taught new members of RedeCASD how to configure a Dynamic Host Configuration Protocol (DHCP) server under Debian GNU/ Linux OS.

SKILLS

Computer Languages	Python, C, C++, C#, MATLAB, R, PHP
Software & Tools	Pandas, Flask, NumPy, InfluxDB, Celery, Redis, Keras, Scikit-Learn, Git, Arduino, ESP32, Altium Designer, FreeRTOS, Quartus, LTspice, KiCad, PlatformIO, Unity
Languages	Portuguese (native), English (advanced), German (beginner)

AWARDS

2nd Best Paper, *19th IEEE Latin American Robotics Symposium* 2022
Deep Neural Network Algorithm to Control a Curved Kicking Mechanism in RoboCup Small Size League

Summa Cum Laude, *B.Sc in Electronics Engineering at ITA* 2021
Overall grade greater than 9.5/10

7^{th} **place**, *International Young Physicists' Tournament Brazil* 2014

Silver Medal, *Brazilian Physics Olympiad (OBF)* 2013, 2011

Silver Medal, *Brazilian Olympiad in Informatics (OBI)* 2012