João BUTTOW

ÉLÈVE INGÉNIEUR À L'INSA TOULOUSE EN 5ÈME ANNÉE SYSTÈMES EMBARQUÉS CONNECTÉS
avec experience en IoT, aeronautique et petrole

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PROFIL

Étudiant en double diplôme en électronique et systèmes embarqués, avec une expérience en électronique embarquée, en conception de systèmes connectés (IoT) et de protocoles de communication sans fil, intéressé par les applications aéronautiques, industrielles et le développement de nouvelles technologies. Je recherche un stage de **6 mois** à partir de **mars 2026**.

COMPÉTENCES

- **Langages de programmation** : C embarqué, C++, Python, Java, Matlab, Assembleur.
- **Logiciels**: AWS, SolidWorks, AutoCAD, Quartus, KiCAD, LTSpice, VirtualBox, GNU Radio, Wave Forms.
- **Bureautique**: Pack Office, Linux, Docker et MVs.
- **Compétences personnelles**: Empathie, esprit d'équipe, flexibilité, leadership, proactivité et résilience.

LANGUES

- Portugais (Maternelle)
- Français (Courant)
- Anglais (Courant)
- Espagnol (Intermédiaire)

INTÉRÊTS

- Aéronautique
- Cyclisme
- Volley
- Voyages

EXPERIENCE PROFESSIONELLE

Institut Clément Ader, FR - PT — 06/2025 - 09/2025
Stagiaire en laboratoire de recherche

- Application d'un système d'acquisition de données avec Raspberry Pi (**Linux**), Arduino (**C++**), base de données avec MongoDB, traitement des données (**Python**) pour la manufacture des pièces avioniques.

Multiphase Flow Research Center, BR — 10/2023 - 02/2024
Assistant Chercheur

- Système IoT pour la collecte de données avec ESP32 et Arduino Cloud, en soutien à un projet de recherche sur l'extraction de pétrole.

Aerodesign UTFPR Curitiba, BR — 08/2022 - 08/2023
Responsable d'équipe pour la construction

- Gestion et supervision d'une équipe multidisciplinaire pour la conception et la fabrication d'un avion radiocommandé (2,5 m) pour une compétition universitaire (sponsors: Embraer et Boeing).
- Réalisation de tests d'autonomie de batteries et d'essais de combinaisons moteur–hélice à couple élevé.
- Responsable du marketing et de la communication (réseaux sociaux).

Relations internationales - UTFPR, BR — 11/2022 - 08/2023
Responsable de l'accueil des étudiants internationaux

- Organisation d'activités d'intégration pour étudiants internationaux.

PROJETS ACADÉMIQUES

Keyless entry in Automotive : clé numérique sur smartphone (**BLE & UWB**) sur carte NXP et système cloud **AWS IoT Core**.

Détection d'anomalies sur simulateur de vol A350 : développement d'un algorithme (**Python**) de détection par machine learning (GRU/LSTM).

Aéroport intelligent : Intégration de capteurs et actionneurs (**C++**), automatisation et surveillance au sein de l'ATCT via **MQTT/Node-RED**.

Trotinette électrique : Conception d'une PCB (**KiCad**) de mesure de courant, contrôle et régulation de vitesse via STM32, **Matlab** et **Simulink**.

FORMATION

INSA Toulouse, FR — 2024 - en cours
4ème et 5ème année, Automatique - Électronique | Spécialisation Systèmes Embarqués Connectés (ISS)

UTFPR Curitiba, BR — 2021 - en cours
Cycle ingénieur en Électronique

INSA Lyon, FR — 2021 - 2022
Échange en première année du cycle préparatoire d'ingénieur

PORTFOLIO

SASS

BY JOÃO G. BUTTOW A.

INTRODUCTION

ENGINEERING WORK IS BEST UNDERSTOOD THROUGH REAL PROJECTS. THAT'S WHY I BUILT THIS PORTFOLIO: TO SHOW, WITH CONCRETE EXAMPLES, HOW I DESIGN, IMPLEMENT, TEST, AND DELIVER SYSTEMS IN EMBEDDED ELECTRONICS, CONNECTED DEVICES, AND SOFTWARE. EACH SECTION SUMMARIZES THE CONTEXT, TOOLS, KEY CHOICES, AND MEASURABLE OUTCOMES - SO IT'S EASY TO SEE BOTH MY TECHNICAL DEPTH AND MY WAY OF WORKING.

JOÃO G. BUTTOW A.

ENGINEERING STUDENT **PHOTOGRAPHER**

I'M A 23-YEAR-OLD BRAZILIAN, AND I COME FROM THE SOUTH OF BRAZIL. I'M A CURIOUS PERSON WHO LOVES TO LEARN AND REALLY EXPLORE THE SUBJECTS I CARE ABOUT. AT THE SAME TIME, I ENJOY HAVING FUN AND CREATING HAPPY MOMENTS WITH THE PEOPLE AROUND ME. LIFE FEELS FAST AND DYNAMIC, SO I TRY TO APPRECIATE IT AND MAKE THE MOST OF EVERY OPPORTUNITY. I ALSO LOVE TAKING PHOTOS SO I CAN KEEP THOSE MOMENTS WITH ME AND LOOK BACK ON THEM LATER.

HTTPS://AZEFALO.GITHUB.IO/

EDUCATION BACKGROUND

INSA LYON
2021-2022

I COMPLETED THE FIRST YEAR OF THE ENGINEERING PREPARATORY CYCLE AS AN EXCHANGE STUDENT WITHIN **AMERINSA**'S PROGRAM

UTFPR CURITIBA
2021-2026

I PURSUED A BACHELOR'S DEGREE IN **ELECTRONIC ENGINEERING**, COMPLETING THE COURSEWORK CORRESPONDING TO THE 2ND AND 3RD YEARS OF THE PROGRAM. IN ADDITION TO COURSE PROJECTS, I TOOK PART IN A ACADEMIC TEAM, WHOSE GOAL IS TO DESIGN AND BUILD AN AIRCRAFT FOR AN INTER-UNIVERSITY COMPETITION.

INSA TOULOUSE
2024-2026

I COMPLETED A DOUBLE DEGREE IN **AUTOMATIC CONTROL AND ELECTRONICS** DURING THE 4TH YEAR OF THE ENGINEERING CYCLE, AND IN THE 5TH YEAR I SPECIALIZED IN **INNOVATIVE SMART SYSTEMS**.

WHY I CHOSE ISS

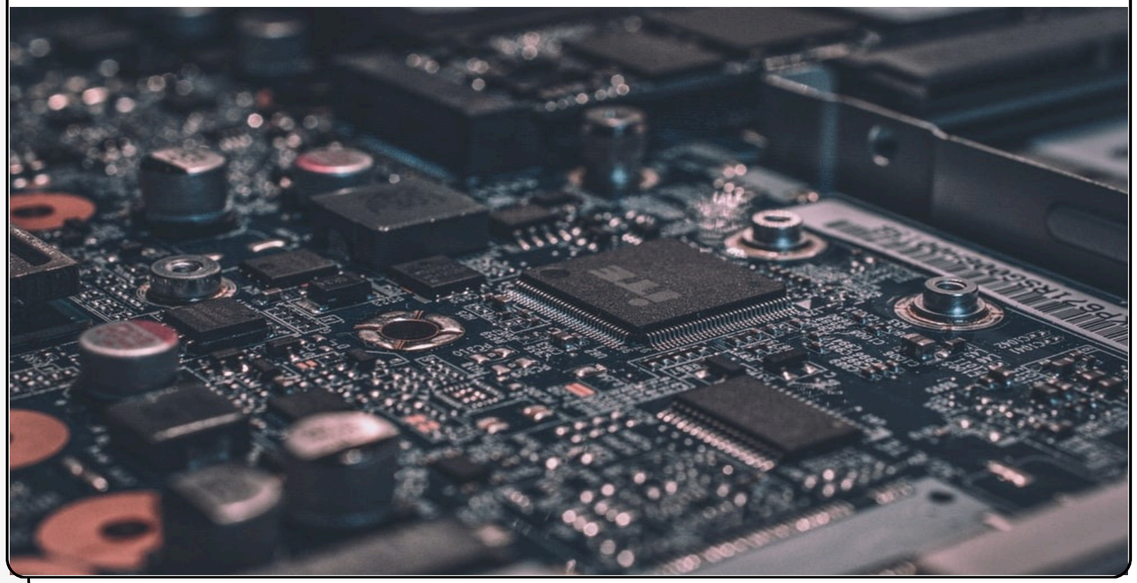
- **MY FIRST UNIVERSITY ASSIGNMENT**

- INTERNET OF THINGS
- HOME AUTOMATION
- INDUSTRY 4.0
- SMART CITIES

INDÚSTRIA ELETRÔNICA

Trabalho de PI

João Gabriel Buttow Albuquerque.



WORK EXPERIENCE

AERODESIGN UTFPR
TEAM MANAGER 2023

MANAGED AND SUPERVISED A MULTIDISCIPLINARY TEAM TO DESIGN AND BUILD A 2.5 M RADIO-CONTROLLED AIRCRAFT FOR A UNIVERSITY COMPETITION, SPONSORED BY EMBRAER AND BOEING; CONDUCTED BATTERY ENDURANCE TESTS AND HIGH-TORQUE MOTOR–PROPELLER COMBINATION TRIALS.

NUEM UTFPR
ASSISTANT RESEARCHER 2024

IMPLEMENTED AN IOT DATA COLLECTION SYSTEM USING ESP32 AND ARDUINO CLOUD TO SUPPORT RESEARCH ON PETROLEUM EXTRACTION PROCESSES. FOCUS ON EMBEDDED C DEVELOPMENT AND WIRELESS COMMUNICATION.

INSTITUT CLÉMENT ADER
STAGE 4A 2025

DEVELOPMENT OF A DATA ACQUISITION SYSTEM USING RASPBERRY PI (LINUX) AND ARDUINO (C++), WITH A MONGODB DATABASE AND DATA PROCESSING IN PYTHON, FOR THE MANUFACTURING OF AVIONICS PARTS.

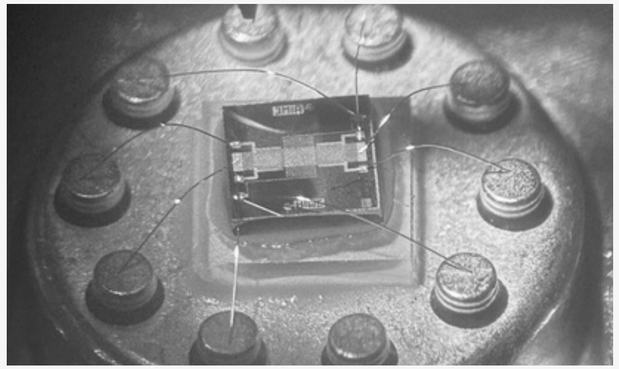
PERSONAL SKILLS

- **TEAMWORK**
- **EMPATHY**
- **COLLABORATION**
- **PROACTIVITY**
- **LEADERSHIP**
- **DETERMINATION**
- **AUTONOMY**

- **AVIATION ENTHUSIAST AND LOVE SPORTS (BIKE, SKI, SWIMMING)**

PROJECT *portfolio*

FIRST



PROJECT

SMART DEVICES

WE BUILT A COMPLETE IOT GAS-SENSING SYSTEM, COVERING THE FULL PIPELINE FROM NANOFABRICATION TO CLOUD VISUALIZATION.

THE WO_3 METAL-OXIDE SENSOR WAS FABRICATED AND PACKAGED, THEN ELECTRICALLY CHARACTERIZED TO EXTRACT USABLE PARAMETERS FOR INTEGRATION. BASED ON THESE RESULTS, WE DESIGNED A HIGH-GAIN ANALOG FRONT-END (LTSPICE-VALIDATED) TO CONVERT NANOAMP CURRENTS INTO A STABLE ADC-READABLE VOLTAGE ON AN ARDUINO.

DATA IS TRANSMITTED VIA LORAWAN (RN2483A / TTN) EVERY 10 S, AND A NODE-RED MQTT PIPELINE + DASHBOARD PROVIDES REAL-TIME MONITORING, ALERTS, AND HISTORY. WE ALSO DESIGNED A KICAD PCB INTEGRATING THE MAIN BLOCKS AND PROTOTYPED A SIMPLE MOBILE HMI FOR USER INTERACTION.

SECOND PROJECT

CLOUD AND EDGE COMPUTING

THIS PROJECT SUMMARIZES A HANDS-ON COURSE THAT COVERED THE PATH FROM VIRTUALIZATION TO CLOUD ORCHESTRATION:
VIRTUALBOX NETWORKING (NAT + PORT FORWARDING), CONTAINERIZED DEPLOYMENT WITH DOCKER, INFRASTRUCTURE PROVISIONING ON OPENSTACK (INSTANCES, SECURITY GROUPS, FLOATING IP EXPOSURE), AND A BASIC KUBERNETES SETUP (KUBEADM + CNI/CALICO + SERVICE EXPOSURE).

IN PRACTICE, HOWEVER, MOST LAB SESSIONS FOLLOWED A STRICT STEP-BY-STEP “RECIPE”: WE SPENT A LARGE PART OF THE TIME COPY-PASTING TERMINAL COMMANDS TO REACH A WORKING RESULT, WITH LIMITED ROOM TO DEEPLY UNDERSTAND THE UNDERLYING MECHANISMS OR TROUBLESHOOT AUTONOMOUSLY. STILL, IT PROVIDED A SOLID FIRST EXPOSURE TO THE TOOLS AND VOCABULARY BEHIND REAL CLOUD STACKS, ESPECIALLY WHERE NETWORKING AND REPRODUCIBILITY BECOME THE MAIN CONSTRAINTS.

TOGETHER

Let's work

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