

# Gabriel Carlesso

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**Summary** — Computer Engineer graduated from the Federal University of Santa Maria (UFSM), recognized for academic excellence by CREA-RS and SEASM. Holds a postgraduate specialization in Semiconductor Packaging from Unisinos. During the In Company phase at HT Micron, developed and automated an advanced testing platform for precise power characterization of IoT chips, integrating high-end electronic instrumentation with automated routines. Experienced in embedded software development, graphical interface design, and automation algorithms through international collaborations. Proficient in Python, C, Dart (Flutter), MATLAB/Simulink, Unreal Engine, Linux, and ROS. Within a multidisciplinary team, coordinated the integration of modules for flight simulation systems in collaboration with AEL Sistemas. Combines a solid background in software development, electronic instrumentation, and automation with proven leadership in educational and volunteer initiatives focused on communication and fundraising.

## Academic Background

### Postgraduate Specialization in Semiconductor Packaging

Jun 2025 - Nov 2025

Unisinos, São Leopoldo, RS - Brazil

- Selected for the funded specialization program of the Secretariat of Innovation, Science and Technology of Rio Grande do Sul (SICT-RS).
- In Company at HT Micron: automation of tests for power consumption characterization in IoT chips.

### Bachelor's Degree in Computer Engineering

Aug 2017 - Dec 2024

Federal University of Santa Maria (UFSM), Santa Maria, RS - Brazil

- CREA-RS Academic Merit Award: Recognized for the highest academic performance in the program.
- SEASM University Excellence Award: Outstanding achievement in extracurricular activities and research.

## Experiences

### Software developer

UFSM/AEL SISTEMAS

Multisensor Navigation in GNSS Degradation Context - NAVMS

Jan 2024 - Feb 2025

Collaboration between universities and AEL Sistemas for developing innovative technologies

- Designed the flight simulator architecture for NAVMS using MATLAB, Unreal Engine, and ROS, leading the integration of flight dynamics and sensor modules to ensure scalability.
- Developed a high-fidelity navigation map with realistic ground imagery in Unreal Engine with Cesium to incorporate 3D tiles based on photogrammetry.
- Implemented a sense-and-avoid system in ROS using Python, incorporating the RRT\* algorithm for NAVMS route planning.

### Scientific Initiation Researcher

UFSM

Precision Technologies for Agriculture

Feb 2023 - Dec 2023

System to enhance animal location tracking, livestock handling, and optimize management.

- Built a cattle monitoring device using embedded C programming and created an intuitive graphical interface with Flutter for data visualization.

### Scientific Initiation Researcher

CTISM/UFSM

Data Privacy Management in Electronic Records

Apr 2018 - Dec 2018

Encryption of user data in the identity verification process between distinct systems.

- Implemented homomorphic encryption functions for data security.
- Conducted testing to evaluate system efficiency and ensure robust data protection.

## International Experience

### Optical Materials, Photonics and Systems Laboratory - LMOPS

Jan 2024 - Feb 2024

Université de Lorraine, France

- Developed an automation system using a microcontroller, custom software, and a Flutter-based graphical interface for a high-precision motorized system designed for single-crystal fiber growth using the micro pulling-down technique.

## Volunteer Experience and Extension Projects

### Engineers Without Borders UFSM - NGO Volunteering

2023 - 2024

- Led the EDUCA project, providing educational support to children in socially vulnerable situations.

### Financial Market League UFSM

2020 - 2021

- Communication Department: Created content and managed the social media platforms.
- Fundraising Department: Area Director, responsible for creating processes for resource mobilization.