



Henrique Antônio Guanais Corneau

Born on October 31st, 2003

E-mail address: henriquegcorneau@gmail.com

EDUCATION

- Bachelor's Degree in Mechatronics Engineering (In Progress) - Universidade Federal do Rio Grande do Norte
(2022 - Expected: 2026)
- Technical Degree in Civil Construction - Instituto Federal da Bahia
(2018 - 2022)

ACADEMIC EXPERIENCE

CNPq Research Fellow – National Council for Scientific and Technological Development

Project: Development of an Autonomous Robotic Platform for Data Collection and Monitoring in Oceanic and Inland Waters.

Universidade Federal do Rio Grande do Norte

Period: 07/2024 – 07/2025

Main Activities: Development, implementation, and testing of robotic perception techniques for visual navigation applied to an autonomous sailing vessel, with applications in other Unmanned Surface Vehicles (USVs). Weekly workload: 12 hours

Member of Zune Drones Team

Universidade Federal do Rio Grande do Norte

Period: 04/2024 - Present

Main Activities: Development, programming, and construction of autonomous drones. Implementation of computer vision and artificial intelligence techniques to enable autonomous tasks. Weekly workload: 6 hours

Technology Resident, Embarcotech Program

Instituto Federal do Rio Grande do Norte

Period: 04/2025 - 07/2025

Main Activities: Development, design, and implementation of embedded systems solutions for private companies in Brazil. Weekly workload: 20 hours

CNPq Extension Scholarship – National Council for Scientific and Technological Development

Project: Cometa Nordeste

Universidade Federal do Rio Grande do Norte

Period 03/2023 - 11/2023

Main Activities: Development of experiments and presentations on astronomy and astronautics for public schools in Rio Grande do Norte. Total workload: 240 hours

Member of Include Engenharia Junior Enterprise

Universidade Federal do Rio Grande do Norte

Role: Human Resources Management Advisor

Period: 08/2022 – 07/2023

Main Activities: Execution of administrative tasks in Human Resources Management. Frontend development of websites. Total workload: 480 hours

Achievements & Competitions

- Gold Medal – Brazilian Astronomy and Astronautics Olympiad (OBA) (2020)
 - Gold Medal – Brazilian Astronomy and Astronautics Olympiad (OBA) (2021)
 - Gold Medal – Real Rocket Category – Brazilian Rocket Exhibition (MOBFOG) (2020)
 - Silver Medal – Simulated Rocket Category – Brazilian Rocket Exhibition (MOBFOG) (2020)
 - Bronze Medal – National Science Olympiad (ONC) (2020)
 - Bronze Medal – National Science Olympiad (ONC) (2021)
 - Bronze Medal – GeoBrazil Olympiad (2019)
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Publications

Drone-Based Object Tracking with Convolutional Neural Networks – COBICET 2024

Authors: Ramon Souza, Henrique Corneau, Murilo Barros, Vinícius Silva, César Melo, Helton Maia

Published in: Proceedings of the Brazilian Interdisciplinary Congress on Science and Technology (COBICET) 2024. DOI: 10.29327/1422868.884110

Drone Controlado por Gestos Manuais Classificados por Rede Neural – ECOP 2025

Authors: Henrique Corneau, Ramon Souza, João Victor de Andrade, Bruno Silva.

Published in: Anais Do Encontro De Computação Do Oeste Potiguar ECOP/UFERSA (ISSN 2526-7574)

SKILLS

- Programming Languages & Hardware Description: Python, C, C++, Assembly, VHDL
- PCB Design & Development
- Modeling Software: CREO Parametric, SolidWorks
- Embedded Systems & Microcontrollers: ESP32, Raspberry Pi, Arduino, Pixhawk
- Internet of Things (IoT)
- Computer Vision & Artificial Intelligence
- Robot Operating System (ROS)
- Operating Systems: Windows, Linux
- Video Editing Software: Vegas Pro, KdenLive
- AutoCAD

LANGUAGES

- Portuguese: Fluent (Speaking, Reading, Writing)
- English: Intermediate (Speaking, Reading, Writing)
- French: Intermediate (Speaking, Reading, Writing)