Ronald Albert

Curriculum Vitae

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▬▬▬ Work Experience

May 2025 – Present	**Research Engineer**, AVRA, São Paulo, SP. Research Engineer at Avra. Working with Foundation Models for graphs, building a model capable of efficiently encoding the complex networks of Brazilian companies and generate useful embeddings for downstream applications and model fine-tuning.
Set 2023 – May 2025	**Graduate Research Intern**, IBM RESEARCH, Rio de Janeiro, RJ. Research Intern at IBM Research laboratory in Rio de Janeiro, Brazil. Working under Spatiotemporal Modeling group, working with AI techniques for Green House Gas detection in Remote Sensing Data. Research related to Computer Vision models with Deep Neural Networks and Vision Foundation Models for Earth Observation.
Nov 2021 – Set 2023	**Intern**, LAMPSCO, Rio de Janeiro, RJ. Intern at LampsCo, spinoff company from laboratory LAMPS at PUC-Rio. LampsCo is a company closely related to the academic fields and its main area of work is in time series modeling and forecasting. As an Intern, my main duties were related to the development of an app for time series forecasting, specifically designed for the electricity generation field.
Jul 2021 – Dec 2022	**Member**, UFRJ ANALYTICA, Rio de Janeiro, RJ. UFRJAnalytica is the extension group from Universidade Federal do Rio de Janeiro focused on data competitions. As a member, I took part in different competitions related to Data Science and Machine Learning. From May 2022 until Dec. 2022, I worked as a Coordinator for the competition area of the group.
Apr 2023 – Jul 2023	**Teaching Assistant - Modeling and Performance Evaluation**, UFRJ - UNIVERSIDADE FEDERAL DO RIO DE JANEIRO, Rio de Janeiro, RJ. The course of Modeling and Performance Evaluation revolves around the techniques of modeling and performance evaluation of computer systems. All of the models studied in the course are stochastic, in a way that it can be seen as a course of stochastic processes with application on the designing of computer systems.
Jul 2021 – Feb 2022	**Teaching Assistant - Statistics and Probability**, UFRJ - UNIVERSIDADE FEDERAL DO RIO DE JANEIRO, Rio de Janeiro, RJ. Introductory course on Statistics and Probability. Fundamental topics are covered such as Random Variables, Discrete and Continuous Distributions, Statistical Measures, Estimation theory and Confidence Intervals.
Jul 2021 – Feb 2022	**Teaching Assistant - Artificial Inteligence**, UFRJ - UNIVERSIDADE FEDERAL DO RIO DE JANEIRO, Rio de Janeiro, RJ. Course on traditional Artifical Intelligence. Covered topics are search methods, Knowledge Representation, Games, Heuristic Optimization and Reasoning.

▬▬▬ Education

2023–2025	**UFRJ - Federal University of Rio de Janeiro**, *Master's student*, *Computer Science*. Master's student in Artificial Intelligence at the Program for Systems Engineering and Computer Science from Federal University of Rio de Janeiro - UFRJ.
2018–2023	**UFRJ - Federal University of Rio de Janeiro**, *Bachelor's degree*, *Computer Science*. Undergraduate degree in Computer Science in the Federal University of Rio de Janeiro - UFRJ.

Spring - 2020 **OsloMet - Oslo Metropolitan University**, *Exchange Student*, *Informasjonsteknologi*.
Exchange semester in Oslo - Norway, through UFRJ's Regular Exchange Program in OsloMet- Oslo Metropolitan University.

Publications

Journal Publication **Learnable Matched Filter for Methane Plume Segmentation in Hyperspectral Imagery**, IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, January 9, 2025.

Conference Presentation **Feature extraction for methane plume segmentation using hyperspectral images**, CLIMATE INFORMATICS 2025, April 28, 2025.

Conference Position Paper **Leveraging hyperspectral remote sensing and foundation models for greenhouse monitoring**, KDD 2024 WORKSHOP FRAGILE EARTH, July 29, 2024.

Extracurricular Courses

Summer Course **Machine Learning**, IMPA - INSTITUTO DE MATEMÁTICA PURA E APLICADA, Grade: A.

Summer Course **Real Analysis**, IMPA - INSTITUTO DE MATEMÁTICA PURA E APLICADA, Grade: O.

Coursera **Introduction to Data Science in Python**, UNIVERSITY OF MICHIGAN.

Coursera **Applied Plotting, Charting & Data Representation in Python**, UNIVERSITY OF MICHIGAN.

Specialization Course **Python for Data Analysis I**, PONTÍFICIA UNIVERSIDADE CATÓLICA DO RIO DE JANEIRO.

Achievements

2021 **Winner**, HACKING.RIO, Rio de Janeiro, RJ.
Winner of the Challenge proposed by company Vale S.A. for the 13th Sustainable Develoment Goal.

2021 **2nd Place**, ABI ACADEMY HACK, Rio de Janeiro, RJ.
2nd Place in the AI category for the competition organized by company Ambev with the development of an API for translation.

2017 **Winner**, EPIC GAME JAM (RIO DE JANEIRO STAGE), Rio de Janeiro, RJ.
Winner of the State Stage of Epic Game Jam. In Rio de Janeiro

2016 **Participant**, BRAZILIAN GAMES SYMPOSIUM, Rio de Janeiro, RJ.
Participant in the event SBGames in 2016 running for the category of games made by students with the game Perspective

2016 **Winner**, RING GAME JAM, Rio de Janeiro, RJ.
Winner of the Game Jam organized by the game development companies from Rio de Janeiro

Volunteer Work

2021 **Volunteer Teacher** , PRÉ VESTIBULAR SOCIAL LIMA BARRETO, Rio de Janeiro, RJ.
Volunteer teacher for Pré Vestibular Social Lima Barreto (PVSLB), a communitary course to prepare students from public schools in Rio for college entrance exams.
The course is an attempt to reduce the accesibility gap in college entrance exams between students from private and public institutions, seeking to equalize opportunities among high school seniors.
There I taught mathematics at a high school level.

2017 **Volunteer**, ROBOTICS OLYMPIAD, Rio de Janeiro, RJ.
Volunteer in the Robotics Olympiad of Rio de Janeiro in 2017

2017 **Volunteer**, ARDUINO DAY, Rio de Janeiro, RJ.
Volunteer supporting the organization of the robotics event with Arduino in the first of April, 2017

Skills & Abilities

Programming Languages	PYTHON, JULIA, C/C++
Software	LaTeX, VISUAL STUDIO, ANACONDA, DOCKER, GIT

Languages

Portuguese	**Native Speaker**
English	**Fluent Speaker**
French	**Beginner Speaker	Currently Learning**