

Mariana Meireles

Systems Engineer and Independent Coordination Researcher

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SELECTED PROFESSIONAL EXPERIENCE

BARFUSS LAB, UNIVERSITY OF BONN

Remote

Researcher

JAN 2024 - PRESENT

- Improving reinforcement learning agents' cognition by applying dynamical systems theory and temporal-difference algorithms
 - Navigating the Complexity of AI Cooperation: From Learning Dynamics to Language Models
- Maintaining an open-source Python package on Collective Reinforcement Learning Dynamics (CRLD)

IMPACT ACADEMY

Remote, Bangalore, IN

Research Fellow

OCT 2023 - PRESENT

- Researching cooperative AI and AI alignment
- Building an open-source MARL [gridworld library](#)

RADAR

Remote

Generative AI and Alignment Research Engineer (Contract)

SEP 2023 - Nov 2023

- RADAR is a research collective that is looking into ways of democratizing research. I'm working on an upcoming research report that explores the implications of artificial intelligence on the future
- Developing an Open Source [Framework](#) for Aligning LLMs

ANACONDA

Remote, Berlin, GE

Software Engineer III

MAY 2022 - MAY 2023

- Engineered and improved various aspects of PyScript's API, including the output system, core Python code re-architecture, WASM integration and Python multithreading in the browser, implemented the initial testing infrastructure and several aspects of the CI system
- Led early efforts in community building for PyScript. Built bridges with external projects like JetBrains, Jupyter, Pyodide and other contributors
- Organized an international, cross-project group with 8 organizations and 20+ contributors to establish a centralized set of protocols for Python web development

NASA

Remote

Subject Matter Expert (Contract)

JUN 2022 - AUG 2023

- Presented the state of the art of the open science research ecosystem to the group of researchers
- [Collaborated](#) in building the chapter on the "Ethos of Open Science" for NASA's [Open Science 101 course](#)

QUANTSTACK	Remote, Berlin, GE
Scientific Software Engineer	FEB 2020 - APR 2022
<ul style="list-style-type: none"> • Integrated the Cytoscape interactive graph library into the Jupyter ecosystem as a widget. Developed Jupyter kernels to support major SQL languages and implemented data visualization capabilities for SQL query outputs within the notebook environment. Added a new visualization mode to Jupyter notebooks. Created a deprecation finder for Bloomberg software and contributed it to the Jupyter project • Authored several aspects of the Mamba and Micromamba APIs and developed R bindings, resulting in a package manager system 25x faster than CRAN. Released and maintained several different packages in the conda-forge ecosystem 	
THE QT COMPANY	Berlin, GE
Desktop GUI Software Engineer (Contract)	SEP 2019 - DEC 2019
<ul style="list-style-type: none"> • Responsible for maintaining and building new features for PySide (the Python bindings for Qt) • Added support functionalities for PySide on Qt Creator • Developed a voice and text assistant for the Berlin Qt Conference 2019 	
MOZILLA	Remote
Web Performance Intern	DEZ 2018 - FEB 2019
<ul style="list-style-type: none"> • Cut the average loading time of the Webcompat website by 35% through the implementation of server-side rendering, HTTP/2, enhanced compression algorithms, and the removal and reimplementations of libraries • Employed Selenium-designed tests to track down some performance bottlenecks and decrease the page load time by 1s in low-speed mobile connections • Worked on small patches for Firefox, available on my bugzilla profile 	
COMPUTER SCIENCE DEP. - UFMG	Belo Horizonte, BR
Undergraduate Researcher	MAR 2018 - JUN 2018
<ul style="list-style-type: none"> • Collaborated with Dr. Flavio Figueiredo to investigate potential correlations between language use and gender using NLP and big data analytics 	
EDUCATION	
SANTA FE INSTITUTE	Remote
<i>Santa Fé Institute - Complexity Interactive</i>	OCT 2023 - OCT 2023
Writing “How does polarization and inequality scale with spatial and population size”	
RECURSE CENTER	New York City, US
<i>Researcher in Reinforcement Learning and Emergent Algorithms</i>	JUN 2023 - SEP 2023
Game theory and ABM LLM software projects	
MIT	Remote
<i>Micro Masters Program in Data, Economics and Development Policy</i>	MAY 2023 - HIATUS
UNIVERSIDADE FEDERAL DE MINAS GERAIS	Belo Horizonte, BR
<i>Bachelor of Engineering, Major in Electrical Engineering; Minor in Computer Science (Incomplete)</i>	2015 - 2018

ADDITIONAL PROJECTS

- **Open Knowledge Foundation [Expert](#)** (*Present*): Offering workshops, delivering talks and mentoring people into the open movement
- **DISC NumFOCUS Steering Council Member** (*Present*): Responsible for organizing the NumFOCUS Unconference 2023, updating the NumFOCUS DISCOVER [Cookbook](#) and [developing integration programs](#) aimed at enabling participation from individuals of underprivileged communities into the open science ecosystem
- **Internet Society Member** (*Present*): Brazilian Chapter, [Rural Development Community and Affordable Internet Access SIG](#)
- **Jupyter Widgets Committee Member** (*Present*): Community maintenance and governance stewardship
- **Women of Color Code Organizer** (*Present*): Software mentor and co-organizer. The project seeks to unite members of minoritized groups in educational institutions and industry settings. Here I have delivered several software and open science classes to graduate students of various backgrounds
- **PyLadies Berlin Organizer** (*Present*): Organizer of PyLadies Berlin, facilitating [workshops and talks](#)
- **Open Life Science Mentor** (*2023*): [Mentored](#) an undergraduate software engineer in the development of a program designed to integrate young research software engineers into the field. This project is affiliated with UK-RSE
- **Guest Lecturer by the LSSTC-DSFP at Harvard** (*2022*): [Instructed graduate students in Astronomy](#) on topics such as Object-Oriented Programming (OOP), performance optimization for scientific software, as well as open science and reproducible research practices

AWARDS

- “[Jupyter Distinguished Contributor](#)” award 2022