

Gustavo C. Mangold

+55 (54) 98437-9295 | gustavocmangold@gmail.com | [Linkedin](#) | [Github](#) | [Website](#)

EDUCATION

Federal University of Rio Grande do Sul

B. Sc. in Physics

Porto Alegre, RS

Mar. 2017 – May 2023

Federal University of Rio Grande do Sul

M. Sc. in Machine Learning and Physics

Porto Alegre, RS

Sept. 2023 – Present

EXPERIENCE

Researcher in Machine Learning and Game Theory

Federal University of Rio Grande do Sul

Sept. 2023 – Present

Porto Alegre, Brazil

- Developed high speed simulations for large scale games which use mainly reinforcement learning
- Strengthened foundations in C, Python and Bash
- Worked side by side with highly experienced and respected researchers in the field
- Improved scientific and rational thinking with advanced problem solving

Software Developer

Nelogica

Oct. 2023 – Jan. 2024

Porto Alegre, Brazil

- Developed applications for the algorithmic trading in the financial market, which had to be high speed and low latency
- Learned to deal with different optimization techniques in code
- Delve into financial market and trading strategies
- Worked and got introduced to the Delphi (Object Pascal) programming language

Freelancer

Several different platforms

Nov. 2018 – Mar. 2022

World

- Assisted small companies with mathematics, physics, and programming problems
- Helped people with the aforementioned subjects through tutoring
- Communicated directly with clients to understand and meet their needs

Undergraduate Research Initiation

Federal University of Rio Grande do Sul

June 2019 – June 2021

Porto Alegre, RS

- Worked within the mathematics department
- Developed formal mathematical techniques for dealing with probability and statistics
- Layed foundations for future work, mainly with Markov Chains and Processes

PUBLICATIONS

2025 – *Dilution, Diffusion and Symbiosis in Spatial Prisoner's Dilemma with Reinforcement Learning*, available as a pre-print in arXiv, currently submitted to Neurocomputing.

CONFERENCES

Oct. 2024 – Talk given in UFPR, Curitiba, at the *IV National Meeting for Statistical Physics*.

Dec. 2024 – Talk given in UBA, Buenos Aires, at the event *Dynamics Days Latin America and the Caribbean*.

Jul. 2025 – Poster presented in Florence, at the *29th International Conference on Statistical Physics - StatPhys*.

SCHOOLS AND WORKSHOPS

Jun. 2024 – *Workshop on Classical and Quantum Machine Learning for Condensed Matter Physics (Remote)*, The Abdus Salam International Centre for Theoretical Physics (ICTP) - Trieste, Italy

May 2025 – *São Paulo School of Advanced Science on Disordered Systems* ICTP-SAIFR, Institute of Theoretical Physics, São Paulo State University - São Paulo, Brazil.

TECHNICAL SKILLS

Advanced: Python (pandas, NumPy, Matplotlib, PyTorch), git, L^AT_EX.

Intermediate: C (glut, gsl), Bash.

Basic: Julia, Java, Delphi.

LANGUAGES

Portuguese: Native

English: Fluent.

Spanish: Intermediate.

Italian: Basic.

French: Basic.