Gustavo Mangold

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EDUCATION

Federal University of Rio Grande do Sul   Porto Alegre, RS
B. Sc. in Physics   *Mar. 2017 – May 2023*

Federal University of Rio Grande do Sul   Porto Alegre, RS
M. Sc. in Machine Learning and Physics   *Sept. 2023 – Present*

EXPERIENCE

Researcher in Machine Learning and Game Theory   Sept. 2023 – Present
Federal University of Rio Grande do Sul   *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   Oct. 2023 – Jan. 2024
Nelogica   *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 learned the Delphi programming language

Freelancer   Nov. 2018 – Mar. 2022
Several different platforms   *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   June 2019 – June 2021
Federal University of Rio Grande do Sul   *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

2023 − *Dynamical Systems and a Quantum Mechanics Interpretation through the lenses of Fuzzy Logic*, Lume, UFRGS

PRESENTATIONS

2024 − *Effects of Space and Mobility in the Spatial Prisoner's Dilemma with Reinforcement Learning*. Talk given at ENFE, UFPR.

2024 − *A Study of Dilution and Mobility in the Spatial Prisoner's Dilemma with Reinforcement Learning*. Talk given at Dynamic Days, University of Buenos Aires.

TECHNICAL SKILLS

Languages: Python, C, Bash, Delphi and Java.
Developer Tools: Git, ssh, Vim, Jupyter, Zed, Visual Studio
Libraries: pandas, NumPy, Matplotlib, Keras, PyTorch, glut, gsl