LUCAS SOUZA

Data Scientist | PhD in Physics

Strong background in math/phys/cod coupled to my interest in collaborate on strategic analytic areas, naturally led me to become a Data Scientist. My interests include optimizing processes by implementing machine learning models to drive better business decisions (or scientific research), i.e. delivering value from data. Additionally I spend my free time playing with ML for algorithm trading.

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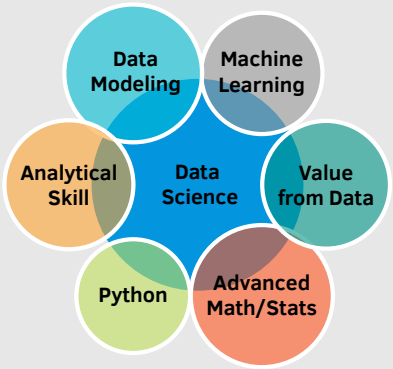
Skills



Programming/Software/Toolbox

Python • Fortran • Git • Linux • LaTeX • Machine Learning: Pandas, GeoPandas, Scikit-Learn, XGBoost, LightGBM, NN, Optuna, Plotly

Deep Learning (Tensorflow) • Time series (LSTM, AlgoTrading) • Genetic Algorithms

PostgreSQL • C++ • Bash

Education

2013 - 2017 **Doctorate in Physics** — Instituto Tecnológico de Aeronáutica, ITA, Brazil

2009 - 2011 **Master's degree** — Univ. Federal de São João del-Rei, UFSJ, Brazil

2004 - 2008 **Physics Undergraduate** — Univ. Federal de São João del-Rei, UFSJ, Brazil

Data Science Experience

Sep 2021 - present **Data Scientist** — Tenda Construtora, Brazil

- Data science techniques to drive better business decisions.
- Among my day-to-day toolbox are: Python, Jupyter, GitLab, Pandas, GeoPandas, Scikit-Learn, XGBoost, LightGBM, Neural Networks, Plotly, Optuna, etc.
- Optimization with Genetic Algorithm.

Research Experience

Oct 2019 - Feb 2020 **Postdoc researcher** — Instituto Tecnológico de Aeronáutica, ITA, Brazil

- Investigation on short-range correlations in nuclear matter of neutron stars taking high programming to calculate equation of state.

Jul 2017 - Oct 2019 **Postdoc researcher** — Universidade de São Paulo, USP, Brazil

- Theoretical study on nuclear reactions of neutron-rich nuclei by computing two- and three-body virtual states within nonrelativistic EFT formalism.

Extra Training (notes and scripts→ Github)

2022 **Statics for Data Science and Machine Learning** (Portuguese) 20h, in progress — IA Expert Academy, Udemy

2022 **TensorFlow: Machine Learning and Deep Learning with Python** (Portuguese) 19h — IA Expert Academy

2022 **Genetic Algorithm in Python** (Portuguese) 4,5h — IA Expert Academy

2021 **The Complete SQL Bootcamp 2022: Go from Zero to Hero** (English) 9h — Udemy

2021 **Machine Learning and Data Science with Python from A to Z** (Portuguese) 42h — IA Expert Academy, Udemy

2017 **School on few-body physics** (English) 60h — MPIPKS, Dresden, Germany

Teaching Experience (2/5 → CV Lattes)

Feb 2019 Oct 2019 **Professor, 30h** — Universidade de Taubaté, Unitau, Brazil

- Professor of Physics and Mathematics and Distance Learning Tutor.

Apr 2018 Jan 2019 **Temporary Professor, 40h** — Universidade Federal de Lavras, UFLA, Brazil

- Physics professor for various undergraduate courses.

Publications (2/14 → Google Scholar)

- Sergio Pilling, Mauricio T. Pazzianotto, Lucas A. Souza, The Astrophysical Journal, **921**, 116(2021)
- Lucas A. Souza, Emanuel V. Chimanski and Brett V. Carlson, Phys. Rev. C, **104**, 034623(2021)