LUCAS SOUZA

Data Scientist | PhD in Physics

Solid background in math/phys/code coupled to my interest in collaborate on strategic analytical areas, naturally led me to become a Data Scientist. Focused on trying to understand the business/research challenges in order to be able to find the suitable tools for solution an then work on process optimization by implementing machine/deep learning models to deliver value from data. Experience working in agile environment and ability to collaborate with a diverse range of co-workers.
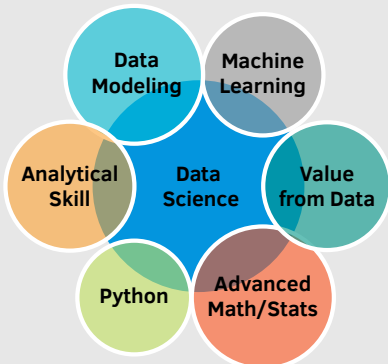
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Skills

Programming/Software/Toolbox

Python • Git:Github/Gitlab • Linux • LaTeX • Data Science/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, GitLab, Pandas, 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)