

# Adrian Domínguez Castro, Ph.D.

Machine Learning Engineer | Quantitative Analyst | Computational Chemist

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## SELECTED EXPERIENCE

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### Machine Learning Engineer

Feb 2024-Present

Freelance (Remote in USA)

- Designed, developed, and optimized end-to-end Machine Learning and Quantitative Analytics projects, showcased on [GitHub Portfolio](#).
- Adapted and integrated state-of-the-art Machine Learning algorithms for predictive analysis in finance, computational chemistry and materials science, biomedical research, anomaly detection, image classification and clustering.
- Developed data science solutions using Python to automate preprocessing and data analysis, reducing a 90% of processing time.

### Postdoctoral Research Scientist

Feb 2023-Jan 2024

Vanderbilt University

Nashville, TN, USA

- Designed, developed, and implemented Machine Learning projects, including deep learning models predicting physical-chemistry observables with over 85% accuracy, culminating in 1 publication.
- Led computational chemistry simulations and developed Python scripts to automate data collection, and data cleaning processes, reducing a 80% of processing time.

### Doctoral Research Scientist

Oct 2018-Dec 2022

University of Bremen

Bremen, Germany

- Led all aspects of 3 multi-year research projects, resulting in 4 publications and developed data science solutions resulting in a 50% reduction of processing time.
- Managed data modeling efforts to develop advanced simulations and predictive models for computational chemistry, presenting insights in 10 + talks at scientific meetings. Built teams and forged collaborations across 5 countries (Germany, Spain, China, USA, France)
- Collaborated on the development of Deep Learning models for AI applications in Chemistry.

## EDUCATION

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Ph.D. in Physics (Dr. rer. nat.) · 2022 · University of Bremen, Germany

B.Sc. in Radiochemistry · 2014 · InSTEC, Cuba

## SKILLS

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- Machine Learning
- Deep Learning
- Data Science
- Statistical Analysis
- Quantitative Analytics
- Python Programming
- Project Management
- Communication

## CERTIFICATIONS

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- **Machine Learning Specialization** by Stanford University & DeepLearning.AI on Coursera.
- **AI for Everyone** by Stanford University & DeepLearning.AI on Coursera.
- **Machine Learning Crash Course** offered by Google

## PORTFOLIO FOR MACHINE LEARNING AND DATA SCIENCE

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Explore detailed projects in Machine Learning and Data Science in my [Portfolio](#)

## PUBLICATIONS

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For a full list of publications, visit my [Google Scholar Profile](#)