Pedro M. P. Curvo

Master Student in Artificial Intelligence
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Education

Universiteit Van Amsterdam — Amsterdam, Netherlands
Master of Science in Artificial Intelligence — *2024 - Expected 2026*

Instituto Superior Técnico — Lisbon, Portugal
Bachelor of Science in Engineering Physics — *2021 - 2024*

- Thesis: Applied Deep Learning for High-Aspect Ratio Stellarator Design (Collaboration with UW Madison, WI, USA)

Instituto Superior Técnico — Lisbon, Portugal
Bachelor of Science in Computer Science and Engineering — *2023 - 2024*

Experience

Junior Software Engineer — Nov. 2024 – Present
Copernica — *Amsterdam, Netherlands*

Research Assistant — Jan. 2024 – Jul. 2024
University of Wisconsin-Madison — *Madison, WI, USA*

Teaching Assistant — Sep. 2023 – Nov. 2023
Instituto Superior Técnico — *Lisbon, Portugal*

Machine Learning Summer Intern — Jul 2022 - Oct 2022
LIP - Laboratory for Instrumentation and Experimental Particle Physics — *Lisbon, Portugal*

- Developed an ML model to replace a time consuming Monte-Carlo simulation of particles

Publications

Using Deep Learning to Design High Aspect Ratio Fusion Devices — 2024
***Curvo, P.**, Ferreira, D.R., & Jorge, R.* — *Journal of Plasma Physics, Cambridge Press*

Skills

Machine Learning: PyTorch, TensorFlow, JAX, Scikit-Learn, Keras
Programming: Python, C++, C, Java, JavaScript, TypeScript, R
Backend & Databases: Django, FastAPI, PostgreSQL
Developer Tools: Git, Docker, Kubernetes
Data Processing & Visualization: NumPy, Pandas, Polars, Matplotlib
Soft Skills: Critical Thinking, Problem-Solving, Teamwork
Languages: Portuguese (Native), English (Advanced), Spanish (Intermediate)

Projects

MLStellaratorDesign | *Python, PyTorch* — Jan 2024 – Jul 2024

- Implemented an Inverse Quasisymmetric Stellarator Near-Axis Method with Mixture Density Networks

HumanaEthica | *Groovy, Java, Vue, TypeScript, JavaScript, Postgresql, Docker* — Mar 2023 – Jul 2024

- Open-source broker that aims to connect charities and non-profit organizations with volunteers.

NFIST Website | *Gatsby, CSS, HTML, TypeScript* — Jul 2024

- Developed a website for the physics student club at IST, Lisbon, Portugal

BimaruSolver | *Python, Numpy* — Jul 2023

- Developed an AI model to solve the Bimaru War-Ship Game

Predicting COMPASS/AMBER Acceptance using NNs | *Python, PyTorch* — Jul. 2023 – Oct. 2023

- Implemented a Classification Model to predict the acceptance of particles at COMPASS/AMBER apparatus at CERN

Honors and Awards

Fellowship: Self-Learning Tools for Experimental Physics Jul 2023 - Oct 2023
Instituto Superior Técnico *Lisbon, Portugal*

Merit Award: Caixa Mais Mundo 2023/2024 Edition
Caixa Geral de Depósitos *Lisbon, Portugal*