LLUÍS PASTOR PÉREZ

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EDUCATION

PhD Student | International Max Planck Research School for Intelligent Systems | Germany June 2025 – Present

- IMPRS-IS PhD student, Analytic Computing group (Universität Stuttgart), supervised by Prof. Steffen Staab

Master of Science in Data Science | ETH Zürich | Switzerland September 2021 - March 2024

- Master's thesis (top grade): Global Order Generative Flow Networks
- Teaching Assistant in Complex Analysis (2022), graded weekly assignments for 40 students and led comprehensive 2-hour lectures

Bachelor of Science in Mathematics | Universitat de Barcelona | Spain September 2017 - July 2021

- Average grade of 8.5/10 (est. top ≈5%) and first class Honors in *Mathematical models and Dynamical systems, Algebraic equations, and Probabilities*. Excelled in both Mathematics and Computer Science subjects
- Exchange semester in École Polythecnique Fédérale de Lausanne. Average grade of 5.85/6 (top student in the class)

PROFESSIONAL EXPERIENCE

Research Intern | SonyAI | Generative AI for Audio | Zürich, Switzerland June 2024 - December 2024

- Researched on audio-based diffusion models, multimodal models, foundation models and evaluation metrics
- Improved the results of the team's generative models with new schedulers and different CFG techniques

Junior Data Scientist | Akina | Digital Health | Zürich, Switzerland January 2023 - August 2023

- Designed ML-based motion analysis for exercise planning and repetition counting
- Developed Akina's flagship product, focusing on privacy and out-of-distribution generalization
- Implemented robust MLOps practices for medical device software development

Data Scientist Intern | Hilti | Manufacturing | Schaan, Liechtenstein March 2022 - August 2022

- Designed and created a generative ML pipeline in Python: data preprocessing, feature engineering, and multi-modal model selection to optimize performance of next-gen drill-bits via optimal geometric and physical parameters
- Researched and implemented the Bayesian Additive Regression Trees model to improve previous models for a crucial dataset of the company, leading to a similar level of accuracy but providing a measure of model uncertainty. Presented the results to the Technical DS Exchange & Community, a Hilti forum to share the most exciting results of the quarter

Data Scientist Intern | Qiagen | Biotechnology | Barcelona, Spain March 2021 - May 2021

- Built an SQL-Grafana server to monitor key manufacturing KPIs. Incorporated time-series models
- Upgraded the main C# application that controlled the manufacturing process, reducing computing time by 8%

RESEARCH EXPERIENCE

- *Global-Order GFlowNets*. Published in ICLR 2025 Workshop *Frontiers in Probabilistic Inference*
- Researched Consistency Trajectory Models in Sony AI (Japan) under the guidance of Chieh-hsin Lai. 2023.
- *Pixlens*: Disentangled benchmarking for image editing models with Object Detection + SAM (ETH, Thomas Hofmann, 2023).
- Deep Learning for survival modeling in cancer patients and tissue classification, achieved SOTA results at ETH & *Kaiko AI*. 2022.

CONFERENCES AND COMPETITIONS

- *2nd IACR PPML School, 2023*: Acquired foundational skills in privacy-preserving machine learning, including secure computation and federated learning. Engaged with experts through lectures and discussions about both theoretical and practical domains
- *Hack4Good, 2022*: Played a key role in the Hack4Good event organized by the Analytics Club, where I helped the NGO WWF to develop an application that automatically detects construction proposals that could negatively impact surrounding natural environments using data analysis and machine learning techniques
- *Artificial Intelligence and Games, 4th International Summer School, 2022*: Summer school sponsored by Modl.ai where experts from big technology companies explained the current state of cutting-edge techniques of Artificial Intelligence and Reinforcement Learning in games. Awarded with the AWS Game Tech Scholarship
- *International Mathematics Competition for University Students*: Worldwide Mathematics competition for selected high-performance students. Competition access was given by being one of the best five students in *Prova Santaló*
- *Prova Cangur*: Geometry, arithmetic and logic test addressed to the best Valencian Community High School students (> 8,000 participants). Top 1% in 2017, 5th place in 2016 and top 3% in 2014

PROGRAMMING SKILLS

- Python including TensorFlow and PyTorch (Advanced)
- SQL, LaTeX and R (Advanced), Excel (Intermediate)
- Spark, Hadoop and Docker (Beginner)

CERTIFICATIONS

- *NLP Specialization, four courses*: DeepLearning.ai
- *Generative AI for LLM*: DeepLearning.ai
- *Several Machine Learning and Programming courses*: Coursera

LANGUAGES

- Catalan and Spanish: Native
- English: CAE (C1 level CEFR)
- French: Upper Intermediate (B2.1)
- German: Pre-intermediate (A2.2/B1)