Sándor Battaglini-Fischer

contact@sandorbattaglinifischer.com
https://sandorbattaglinifischer.com/ LinkedIn GitHub

Education

2025 – … **PhD in Physics**, Institute for Cross-Disciplinary Physics and Complex Systems (CSIC-UIB), Palma, Spain.
Funded by a Marie Skłodowska-Curie Actions grant (POSTDIGITAL+ Network).
Research on brain-inspired computing architectures based on photonic oscillators, combining cognitive neuroscience, machine learning, and dynamical systems theory.

2023 – 2025 **M.Sc. in Computational Science**, University of Amsterdam & Vrije Universiteit Amsterdam, Netherlands.
Thesis (at IFISC, Palma, on an Erasmus+ grant): *Enhancing Computational Capabilities of High-Dimensional Dynamical Systems: Optimization of Stuart-Landau Oscillator Networks.*
Coursework: scientific computing, machine learning, high-performance computing, complex systems simulation, scientific visualisation.

2019 – 2023 **B.Sc. in Physics**, Technical University of Munich, Germany.
Thesis: *Analysis of 3D Cell Culture Experiments with Machine Learning Methods.*
Erasmus+ exchange at the Technical University of Denmark (DTU), focusing on statistical and material physics.

Publications

1 **Battaglini-Fischer, Sándor**, N. Srinivasan, B. L. Szarvas, X. Chu, and A. Iosup, "FAILS: A Framework for Automated Collection and Analysis of LLM Service Incidents," in *ACM Conferences*, New York, NY, USA: Association for Computing Machinery, May 2025, pp. 187–194. DOI: 10.1145/3680256.3721320.

Work Experience

2022 – … **IT Project Manager / Web Developer**, komDESIGN, Munich.
Contributed to the redesign and multilingual rollout of a Fortune 500 corporate website, coordinating teams across multiple countries; built full-stack web applications (Flask) incorporating machine learning models.

Skills

Scientific — Nonlinear dynamical systems, scientific computing, high-performance computing, complex systems simulation, agent-based modelling, network science, scientific visualisation, theoretical and experimental physics (mechanics, electrodynamics, statistical physics, quantum mechanics, bio-, material-, particle- and astrophysics)

Machine Learning — Statistical learning theory, reservoir computing, convolutional neural networks (U-Nets), deep learning, LLMs, retrieval-augmented generation

Programming — Python, Julia, MATLAB, LaTeX, TypeScript, HTML, CSS, JavaScript, React.

Software — Git, Docker, WordPress, Blender, Adobe Creative Suite (Photoshop, Illustrator, Premiere, InDesign, XD), Ableton Live, FL Studio, Microsoft Office, Davinci Resolve.

Languages — German & English (native), Italian (C1), Spanish (B2).

Creative — Electronic music production and DJing since 2016; live sound engineering; video production and special FX with Davinci Resolve; photography and photo editing.

References

Available on Request