Sándor Battaglini-Fischer

Date of birth: 27 Apr 2000 ╎ **Place of birth:** Atherton, Australia ╎ **Nationality:** German, Italian, Australian ╎ **Website:**

www.sandorbattaglinifischer.com ╎ **LinkedIn:** https://www.linkedin.com/in/sándor-battaglini-fischer-619b90221/

EDUCATION AND TRAINING

1 SEP 2023 – CURRENT Amsterdam, Netherlands
M.SC. IN COMPUTATIONAL SCIENCE University of Amsterdam and Vrije Universiteit Amsterdam

1. Core Subjects:
   - Scientific Computing
   - Data Analysis and Machine Learning
   - High-Performance Computing
   - Complex Systems Simulation, Agent Based Modelling
   - Scientific Visualisation
2. Key Skills:
   - Advanced programming in languages such as Python and Julia
   - Parallel computing and GPU programming
   - Data visualisation and analysis
   - Numerical methods and algorithms
3. Research Components:
   - Research project in network science, working for Prof. Rick Quax and the Amsterdam police on a visualisation interface for criminal networks
   - **Master Thesis @ IFISC (Palma, ES) on an ERASMUS+ Grant**: Working on the computational capabilities of dynamical systems, specifically harnessing oscillatory systems inspired by photonic networks to do machine learning tasks such as sentiment analysis
4. Interdisciplinary Approach:
   - Integration of computer science, mathematics, and domain-specific knowledge (physics, biology, finance, chemistry...)
5. Technical Tools:
   - Experience with supercomputing facilities (SNELLIUS@UvA, DAS-5@VU, Nuredduna@IFISC)
   - Proficiency in scientific software and libraries (e.g., NumPy, SciPy, MPI)
6. Soft Skills:
   - Problem-solving in complex computational environments
   - Interdisciplinary collaboration in multiple countries
   - Scientific communication and presentation
7. Participations:
   - Participated in the workshop "**Scientific Machine Learning (Semester Programme)**" at the CWI (National Research Institute for Mathematics and Computer Science in the Netherlands)
8. Publications:
   - **FAILS: A Framework for Automated Collection and Analysis of LLM Service Incidents;** S. Battaglini-Fischer, B. Szarvas, N. Srinivasan, A. Iosup, X. Chu; March 2025

Website https://www.uva.nl/shared-content/programmas/en/masters/computational-science/computational-science.html ╎

Field of study Computational modelling and numerical simulation ╎ **Final grade** 8.2/10 (Pre-Thesis) ╎ **Level in EQF** EQF level 7 ╎

Type of credits ECTS ╎ **Number of credits** 120 ╎

Thesis (Preliminary) Enhancing Computational Capabilities of High-Dimensional Dynamical Systems: Advancing Neuromorphic Computing through Photonic Network Optimization

31 AUG 2019 – 30 SEP 2023 München, Germany
B.SC. IN PHYSICS Technical University Munich

- Mathematical foundations (Analysis and Linear Algebra)
- Fundamental Physics (Mechanics, Electromagnetism, Thermodynamics, Optics, and Quantum Physics)
- Advanced Theoretical Physics (Electrodynamics, Statistical Physics, and Quantum Mechanics)
- Biological fundamentals and Biophysics
- Research methodology, laboratory work and experimental techniques
- Scientific programming
- Chemistry fundamentals for physicists

Erasmus Exchange in the third semester to the Technical University of Denmark (DTU), where I focused on statistical and material physics.

Address Technische Universität München, Arcisstraße 21, 80333, München, Germany │ **Website** https://www.ph.tum.de/ │

Field of study Physics, Mathematics, Natural sciences │ **Level in EQF** EQF level 6 │ **Type of credits** ECTS │ **Number of credits** 180 │

Thesis Analysis of 3D Cell Culture Experiments with Machine Learning Methods

31 AUG 2014 – 14 JUN 2019 Bolzano, Italy
MATURA (ABITUR) Realgymnasium Bozen

- High school with a focus on the applied sciences, final exam (maturitá) with outstanding grade (98/100)
- Exchange in the fourth year to Tuscany (Pistoia)

Address Realgymnasium Bozen, Fagenstraße 10, 39100, Bolzano, Italy │

Website https://www.rg-fob.it/de/ausbildung/realgymnasium/angewandte-naturwissenschaften.html │

Field of study Generic programmes and qualifications │ **Final grade** 98/100 │ **Level in EQF** EQF level 4

WORK EXPERIENCE

KOMDESIGN – MUNICH, GERMANY
IT PROJECT MANAGER, WEB DEVELOPER, WEB CONTENT EDITOR – 1 JUL 2022 – CURRENT

- I helped with the redesign of a Fortune 500 company corporate website, as well as the multi-lingual adaptation for the affiliate websites, coordinating teams in multiple countries and coaching the respective website owners on its functionality. I also worked on the front-end with HTML components, adapting CSS styling and incorporating content as well as creating automation scripts and tools as well as doing image and video editing.
- I create full-stack web applications for a range of clients using Flask and incorporating machine learning models

AKADEMIE BLICKWINKEL – MÜNCHEN, GERMANY
WEBSITE EDITOR – 11 OCT 2020 – CURRENT

My tasks for this minijob include keeping the homepage and other sites up to date, administrating databases with customer information, editing customer forms as well as social media tasks.

AUTOCONCEPT – DEUTSCHNOFEN, ITALY
CAR MECHANIC – 1 JUN 2016 – 30 AUG 2017

Summerjob for two years, where I:
- Performed routine maintenance tasks like oil changes, tire rotations, and brake inspections
- Helped repair and replace vehicle components such as engines, transmissions, and suspension systems
- Followed safety protocols and maintained a clean, organised workspace

CLINICA VETERINARIA BUGGIANO – BORGO A BUGGIANO, ITALY
PRACTICUM AT A VETERINARIAN PRACTICE – 1 JUL 2018 – 15 JUL 2018

Scientific summer practicum:
- Assisted in the care, handling, and restraint of animals during medical examinations, surgeries, and treatments
- Conducted basic lab tests, such as analysing blood or urine samples under supervision
- Performed injections

GARTENWELT PLATTER – APPIANO SULLA STRADA DEL VINO, ITALY
LANDSCAPE GARDENER – 20 JUL 2018 – 30 AUG 2018

Summer job:
- Assisted in implementing garden layouts for newly constructed homes
- Participated in trimming hedges, pruning trees, and general maintenance of residential gardens, improving plant health and garden appearance.
- Helped in planting trees, shrubs, flowers, and grass in various residential projects, following landscaping plans and soil preparation techniques.
- Operated gardening tools and equipment like hedge trimmers, lawnmowers, and irrigation systems.

LANGUAGE SKILLS

Mother tongue(s): **GERMAN** │ **ENGLISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ITALIAN	C1	C1	C1	C1	C1
SPANISH	B2	B2	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Scientific

Machine Learning | RAG | Python | Matlab | LaTeX | Julia | TypeScript | Wolfram Mathematica

Web technologies/IT

AEM | Wordpress | Git | Docker | HTML5, CSS, Javascript | React

Other

Microsoft Office (Outlook, Excel, Word, PowerPoint)

Creative

Adobe (Adobe Photoshop, Adobe InDesign, Adobe Illustrator, Adobe Premiere, Adobe XD) | Capture One | DAW (Ableton, FL Studio) | Blender

DRIVING LICENCE

Driving Licence: AM
Driving Licence: A1
Driving Licence: B

PUBLICATIONS

2025
[FAILS: A Framework for Automated Collection and Analysis of LLM Service Incidents](#)

Large Language Model (LLM) services such as ChatGPT, DALLE, and Cursor have quickly become essential for society, businesses, and individuals, empowering applications such as chatbots, image generation, and code assistance. The complexity of LLM systems makes them prone to failures and affects their reliability and availability, yet their failure patterns are not fully understood, making it an emerging problem. However, there are limited datasets and studies in this area, particularly lacking an open-access tool for analyzing LLM service failures based on incident reports. Addressing these problems, in this work we propose FAILS, the first open-sourced framework for incident reports collection and analysis on different LLM services and providers. FAILS provides comprehensive data collection, analysis, and visualization capabilities, including:(1) It can automatically collect, clean, and update incident data through its data scraper and processing components;(2) It provides 17 types of failure analysis, allowing users to explore temporal trends of incidents, analyze service reliability metrics, such as Mean Time to Recovery (MTTR) and Mean Time Between Failures (MTBF);(3) It leverages advanced LLM tools to assist in data analysis and interpretation, enabling users to gain observations and insights efficiently. All functions are integrated in the backend, allowing users to easily access them through a web-based frontend interface. FAILS supports researchers, engineers, and general users to understand failure patterns and further mitigate operational incidents and outages in LLM services. The framework is publicly available on https://github.com/atlarge-research/FAILS.

https://doi.org/10.1145/3680256.3721320

Authors: Sándor Battaglini-Fischer, Nishanthi Srinivasan, Bálint László Szarvas, Xiaoyu Chu, Alexandru Iosup | **Journal Name**: Companion of the 16th ACM/SPEC International Conference on Performance Engineering | **Publisher**: ACM (Association for Computing Machinery)

Link https://arxiv.org/abs/2503.12185