Dr. Christoph Sträter

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Experience

LASR-LABS   London
AI Research Scientist   07/2024-09/2024
- 3-month paid research program in the field of AI Safety, resulting in a scientific paper (accepted in NeurIPS workshop "Safe Generative AI")
- Evaluation + fine-tuning of LLMs, paper implementation, scientific computing

SELF-EMPLOYED / PERSONAL PROJECTS   Berlin
Full-Stack AI engineer   2020-2025
- **AISecurityEngineer**: AI Agent for analyzing and fixing security issues in code
  https://github.com/straeter/AISecurityEngineer
- **SmarterVids**: Analytics tool for YouTube content creators
  https://smartervids.com/
- **AskAiden**: AI Assistant / Agent for school students (chat, generate personalized learning content)
  https://askaiden.ai/
- **PaperPortal:** AI Assistant / Agent for scientists (chat, write notes, generate scripts + plots)
  https://paperportal.org
- **Papertalk**: Video platform for Machine Learning Conference Talks
  https://papertalk.org/

MODELME UG   Berlin
Founder, CTO, ML Engineer   06/2021 – 08/2023
- Computer Vision Startup using GANs + Stable Diffusion to generate and edit fashion images
- Founded via Entrepreneur First, VC-backed, raised ~1 million Euro
- Managed team of 4 ML engineers/scientists
- Collected dataset of 3 million images, adapted STYLEGAN architecture, built various apps, deployed and managed main SaaS product (Python, PyTorch, Weights & Biases, Streamlit, MongoDB, FastAPI)

BASF SE   Dresden
Data Scientist   10/2018 – 09/2019
- Scout, analyze and evaluate potential of digitization and Machine Learning
- Various Data Science and ML projects (predictive maintenance, security assistants, fraud detection)
- Conduct workshops and develop technical roadmaps

FUTURESAX   Dresden
Project Manager   02/2018 – 07/2018
- Saxony's Innovation Platform
- Planning and supervision of innovation events for Startups and scientists

KPMG   Munich
Intern Advisory   02/2012 – 04/2012
- Energy sector, natural resources, renewable energy
- Stochastic modelling of energy prices, risk management, market study of electrical car industry

Education

MPI PHYSICS OF COMPLEX SYSTEMS / TU DRESDEN Dresden
- PhD Physics (Dr. rer. nat.), magna cum laude, supervisor: Prof. Dr. Roland Ketzmerick 2012-2017
- Theoretical work in Quantum Simulation, Optical Lattices, Condensed Matter Systems

CAMBRIDGE UNIVERSITY Cambridge (UK)
- MaST Mathematics (Part III), Distinction 2009-2010
- Statistics, Quantum Information, Quantum Field Theory etc.

LMU MUNICH Munich
- MSc Theoretical and Mathematical Physics, 1.4 (1-6) 2008-2011
- Mathematical Physics, Numerical Physics, String Theory etc.
- Thesis in Condensed Matter Theory supervised by Prof. Dr. Jan von Delft

CARL-VON-OSSIETZKY UNIVERSITY OLDENBURG Oldenburg
- BSc Physics 1.4 (1-6) 2005-2008
- Thesis in Condensed Matter Theory supervised by Prof. Dr. Martin Holthaus

KGS Wiesmoor Wiesmoor
- Abitur / High school, 1.2 (1-6) 2005

Leadership and Activities

AI SAFETY FUNDAMENTALS COURSE Remote, 2024
- Participating in the AI Safety Fundamentals course by BlueDot Impact
- RLHF, Scalable Oversight, Mechanistic Interpretability
- Final project: Evaluating values of LLMs depending on the prompt language (won 2nd price for best visualization) - https://llm-values.streamlit.app/

TEDxDRESDEN – FOUNDER & CEO Dresden, 2016-2019
- Licensee and project manager of TEDxDresden (in total 4 main events, 51 talks, 2500 attendees, 25 team members); founder and chairperson of the associated non-profit

SCIENCE SLAMMER Dresden, 2016-2017
- Presented my PhD project in an informative and entertaining way to a lay audience
- Participated in 15 national competitions (5 won)

PHD REPRESENTATIVE Dresden, 2014-2017
- represented the interests of ~50 PhD students of the MPI for Physics of Complex Systems
- co-organized interdisciplinary conference Vision in Science

SCIENTIFIC AUTHOR & REFEREE 2011-2017
- 8 publications peer-reviewed journals, 4 as first author, 2 collaborations with experiments
- https://scholar.google.com/citations?user=aWwdds8AAAAJ&hl=de
- Referee for the American Physical Society

LECTURER & TUTOR 2000-2022
- Lectured in total 9 courses in physics and mathematics (Oldenburg, Munich, Dresden, Berlin)
- Private tutoring of school and university students since the age of 14

Prices & Scholarships

DRESDEN CONGRESS AWARD   Dresden, 2018
- Category "Newcomer" for organizing TEDx conferences in Dresden

E.M. BURNETT PRICE   Cambridge, 2010
- awarded by the college Hughes Hall for obtaining Distinction in Part III Mathematics

STUDIENSTIFTUNG DES DEUTSCHEN VOLKES   2008-2017
- Scholarship of the German National Academic Foundation (as student & PhD student)
- Awarded to best 1% of German students

Technical Skills

MACHINE LEARNING / AI
- Adaption, training, evaluation and deployment of ML models (text + image) with PyTorch
- AI agents & RAG systems
- Datascience & Big Data
- Scientific python libraries (numpy, pandas, scikit-learning)
- Coursera Certificates in Reinforcement Learning, NLP, Mathematics of Deep Learning etc., see my LinkedIn page https://www.linkedin.com/in/christoph-straeter/details/certifications/

SOFTWARE DEVELOPMENT
- Backend: proficient Python, APIs (Flask, FastAPI), object-oriented, design patterns, multi-processing
- Frontend: React JS, Jinja2, JQuery
- Databases: PostgreSQL, MongoDB, ChromaDB
- Complementary: Git/Github, Docker, Scrum, PyCharm, AWS, GCP

ACADEMIC
- Proficient knowledge in Linear Algebra, Statistics, Stochastic Modelling, Numerics, Physics
- Scientific Computing
- Scientific Writing (LaTeX)

Skills & Interests

Languages: German (mother tongue), English (fluent, C2), Spanish (medium, B2)
Interests: Playing Classical Piano, Tango Dancing, Chess, Professional Debating