Saeed Amiri

Dr. rer. nat.

Data Scientist / Machine Learning Engineer

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Experienced researcher and problem-solver with 14+ years in data analysis, simulation, and interdisciplinary collaboration. Currently advancing into machine learning engineering through a Sorbonne-certified program, applying analytical skills to develop data-driven solutions. Looking to apply these skills in industry roles that require rigorous analysis, scalable pipelines, and measurable impact.

Skills

Programming & Tools:	Python (**9+ years**), SQL, C, Fortran, Git, GitHub, Linux (**14+ years**), Windows, VM
Data & Visualization:	Pandas, asyncio, multiprocessing, Matplotlib, Seaborn, Plotly, Streamlit
Data Engineer & Analysis:	Pipelines, CI/CD, ELT/ETL, Airflow, Data orchestration workflows
Machine Learning:	scikit-learn, TensorFlow, PyTorch, SciPy, NumPy
Research & Methods:	Statistical Analysis, Modeling, Simulation
Communication:	English (fluent), German (B1/B2, improving for C1), Persian and Kurdish (native)

Experiences

Ongoing Training: Machine Learning Engineer (Data Science & MLOps) **Present — (Expected Completion) Mar 2026**
DataScientest *Université Paris 1 Panthéon-Sorbonne Certificate (Full-time, Online)*

- **Production-oriented training: data science, machine learning, and MLOps:**
  - Focus on real-world constraints (scale, imbalance, deployment, monitoring)
  - Applying a variety of supervised and unsupervised ML methods
  - MLOps lifecycle management, deployment, and monitoring
  - Cloud (AWS), Docker, Kubernetes, Airflow, and FastAPI
  - API security, logging, Prometheus, and Grafana
- **Anomaly Detection in Automotive CAN Bus Data project:**
  - Designed pipelines for large-scale time-series data (**>100 million records**)
  - Addressed **extreme class imbalance** typical of real-world security and monitoring systems
  - Engineered and introduced new Feature Engineering & Selection, improving detection performance to **99%**
  - Designed a **hybrid machine learning workflow** combining multiple models to mitigate imbalance and improve robustness

Postdoctoral Researcher **Feb 2022 — Jan 2025**
University of Bremen, Hybrid Materials Interfaces Group *Bremen, Germany*

- **Simulating complex computational models for real-world experimental systems**:
  - Translated physical experiments into scalable, data-driven simulation workflows
  - Developed reusable automation tools and generalized **Python/Bash pipelines**
  - Automated large-scale job submission and monitoring on HPC clusters
  - Ensure reliability under strict runtime limits (**12-hour execution**)
  - Reduced trial-and-error cycles by approximately **50%**

- **Processing very large simulation-generated datasets:**
  - Optimized Python/Bash workflows on HPC clusters, achieving a **10x reduction** in execution time (from **100+ hours to <12**)
  - Designed robust processing logic for high-dimensional datasets (**50GB+ per run**) with zero loss in validation accuracy
- **Communicated complex technical results to diverse audiences and conferences**:
  - Applied statistical analysis to identify trends, correlations, and predictive patterns
  - Presented findings in international conferences, technical seminars, and peer-reviewed publications

Doctoral Researcher **May 2018 — Oct 2021**

University of Göttingen, Institut für Materialphysik *Göttingen, Germany*

- Modeled and simulated complex atomic-scale friction systems
- **Processed and analyzed extensive multi-system datasets (Python, C) on the fly in order to:**
  - Monitored constraint violations and removed them to reduce computational consumption (approximately 10%)
  - Reduced memory usage and storage requirements by approximately (approximately 60%)

Accounting & Financial Operations **Jan 2007 — May 2018**

Stone-cutting workshop *Iran*

- Managed full-cycle financial operations, payroll (25+ employees), sales, and tax compliance
- Optimized cost-tracking and forecasting to support procurement and production scaling

Education

Machine Learning Engineer (Data Scientist & MLOps Specialty, Full-time) Present (until March 2026)

Dr. rer. nat. in Theoretical Physics (Material Science), *Institut für Materialphysik, Göttingen Universität* Oct 2021

Master of Science, Physics, *Damghan University* Sep 2016

Bachelor, Physics, *Payam-é-Nor University Hamadan* Sep 2013