Zhijie Zhao

Resume

Personal Data

Address	Jianshe Road East 46 453007 Xinxiang
Telephone	+86 18026406550
E-mail	zjzhao1002@gmail.com
Nationality	Chinese
Birthday	02.10.1988

Professional Experience

02/2025 - Today **Junior Scientist**, *Henan Normal University*, Xinxiang, China
- I am interested in implementing Machine Learning Models to the research of particle physics.
- I gave a lecture for Monte-Carlo techniques and the applications of Machine Learning.
- I am building a AI Research Assistant for my research field: GitHub Link

04/2024 - 08/2024 **Visiting Researcher**, *University of Chinese Academy of Science*, Beijing, China
- I generated and analyzed Monte-Carlo data for collider experiment.
- I gave a lecture for Monte-Carlo techniques to graduate students.
- I presented my progress of research at a international conference (LCWS 2024).

12/2021 - 11/2023 **Postdoctoral Fellow**, *Deutsches Elektronen-Synchrotron (DESY)*, Hamburg, Germany
- I generated and analyzed Monte-Carlo data for collider experiment.
- I tested, developed and tuned the Whizard3+Pythia8 interface. They are two Monte-Carlo software.
- These works were published in paper arXiv:2302.01143 and presented at a international conference (LCWS 2023).

03/2019 - 12/2023 **Postdoctoral Fellow**, *Institute of High Energy Physics*, Beijing, China
- I generated and analyzed Monte-Carlo data for collider experiment.
- I had implemented **Decision Tree** and **Neural Network** in our data analysis.
- I applied for a postdoc exchange program between China and Germany on 2021.
- The major publications in this period are: arXiv:2302.01143 and arXiv:2101.12537.

Education

10/2015 - 01/2019 **PhD of Theoretical Particle Physics**, *University of Siegen*, Siegen, Germany
PhD Thesis: Multi-Higgs Production at Future Hadron Colliders

09/2012 - 06/2015 **MSc of Atomic and Molecular Physics**, *University of Chinese Academy of Sciences*, Beijing, China
Master Thesis: Theoretical Research for The Propagation of Intense Femtosecond Laser in Air

09/2007 - 06/2011 **BSc of Opto-Information Science & Technology**, *University of South China Agricultural University*, Guangzhou, China

Personal Projects

arXivFlow, *2026.04-present*, GitHub Link

- arXivFlow is a powerful Python-based automation tool to research paper discovery and tracking process.
- I also integrated this tool with local LLM by Ollama for paper analysis and data extraction.
- It is deployed to PyPI automatically by GitHub Actions.

HEPARA, *2025.05-present*, GitHub Link

- HEPARA (High Energy Physics AI Research Assistant) is a project that aims to build an AI agent to assist researchers.
- Now it is developed by Gemini model and be able to search for literature through two useful APIs.
- More features are under development.

Machine Learning from Scratch, *2025.7-present*, GitHub Link

- I build some machine learning models, from simple to complex, from scratch to understand their algorithms.
- The following models are included: Linear Regression, K-Means Clustering, Neural Networks, CNN, and Tree Based Models.
- I have also built a GPT in other repository.
- These models have been test successfully by various datasets.

Additional Qualifications

- Nikolai Uraltsev Fellowship of the Center for Particle Physics, University of Siegen (2015-2019)
- China and Germany Postdoctoral Exchange Program (2021-2023)

Certificates

- Google Cloud Data Analytics Specialization (ID: 4MV7X58L6Q38)
- IBM Data Science Specialization (ID: X4YDL81HMPC4)

Knowledge and Skills

Languages

Chinese	Mother Language	*Cantonese and Mandarin*
English	Business Fluent	
Japanese	Business Fluent	**JLPT N1**
German	Good Knowledge	**Nicos Weg - Einfach Deutsch lernen B1**

Computer Skills

Languages	Python, C/C++, SQL
Database	MySQL, MongoDB
Data Analysis	Numpy, Pandas, Matplotlib
Data Visualization	Tableau, Power BI, Looker
Machine Learning	Scikit-learn, TensorFlow, PyTorch
AI & LLM	Gemini API, Langchain, Ollama, Antigravity, Codex
Cloud & Tools	Google Cloud Platform, Docker, Git

Links

GitHub	https://github.com/zjzhao1002
LinkedIn	https://www.linkedin.com/in/zhijie-zhao-6841b1269/
Kaggle	https://www.kaggle.com/zjzhao1002
LeetCode	https://leetcode.com/u/zjzhao1002/
Upwork	https://www.upwork.com/freelancers/~011e5b8226c992b44c