JIANGMING YAO

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SUMMARY

Ph.D. in computational nuclear physics with 10+years experiences in **quantitative modeling**, programming, data analysis and visualization. Strong math background with statistical analysis skills and hands-on experience in conventional machine-learning and deep-learning techniques. Experience in parallel computing on High-Performance Computing with OpenMP/MPI. Strong desire to learn new skills, work and share with other people.

EDUCATION

Peking University Ph.D. in Computational Nuclear Physics

Technical University of Munich Exchange Ph.D. program

Nankai University B.S. in Physics

SKILLS

· Programming: Python (Pandas, Numpy, Scipy, Sklearn, Matplotlib), C++, Fortran, Linux shell script, SAS, SQL

- · Machine Learning: Supervised and unsupervised algorithms, Deep Learning (CNN, RNN, YOLO), Tensorflow, Keras
- · Statistics: Statistical models, Probability, Bayesian Inference, Estimators, Hypothesis test, etc

EXPERIENCE

· 1	Research Associate, Michigan State University, East Lansing, MI	Feb 2018 - present
· 1	Research Associate, University of North Carolina at Chapel Hill, NC	Sep 2015 - Jan 2018
• 2	Assistant Professor, Tohoku University, Sendai, Japan	Jul 2013 - Aug 2015
· 1	Research Fellow, Free University of Brussels, Brussels, Belgium	Jun 2011 - Dec 2012
· 1	Professor, Southwest University, Chongqing, China	July 2009 - Apr 2017

PROJECTS

Industrial projects on Kaggle

- · House prices prediction (data wrangling, feature selection/scaling, regressions)
- · Credit card fraud detection (classification algorithms for imbalance data)

Capstone projects on Coursera

- · Document Similarity & Topic Modelling (Natural Language Toolkit, regular expression)
- · Autonomous driving Car detection (Computer vision, Object detection)

Academic Projects on Data Science

- · Implement various gradient descent algorithms to perform high-dimension variational calculations for atomic nuclei.
- · Utilize data visualization and PCA techniques to analyze a large amount of nuclear data from model calculations.
- · Apply machine-learning techniques to do interpolation and extrapolation.

High-Performance Computing in Python/Fortran/C++

- \cdot Manipulate large amounts of data (~ 50 GB) for nuclear matrix elements using parallel computing techniques
- · Solve thousands of coupled ordinary differential equations for unitary transformed matrices/tensors

CERTIFICATES

Specialization certificates from Coursera

- · Deep Learning, deeplearning.ai, March 2019
- $\cdot\,$ IBM Data Science Professional Certificate, IBM, December 2018
- $\cdot\,$ Applied Data Science with Python, University of Michigan, April 2018

ACHIEVEMENTS

- \cdot 60+ peer reviewed research papers (1700+ citations), 20+ conference proceedings, 30+ conference/seminar talks
- \cdot Former PI of 3 grants, mentor of 6 master students, referee for several international journals.

Beijing, China Sep 2004 - July 2009

Munich, Germany Sep 2006 - Aug 2008

Tianjin, China Sep 2000 - July 2004