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 — **Beijing, China**
Ph.D. in Computational Nuclear Physics — Sep 2004 - July 2009

Technical University of Munich — **Munich, Germany**
Exchange Ph.D. program — Sep 2006 - Aug 2008

Nankai University — **Tianjin, China**
B.S. in Physics — Sep 2000 - July 2004

SKILLS

· Programming: Python package (Pandas, Numpy, Scipy, Sklearn, Matplotlib), C++, Fortran, Linux shell script, SQL, R
· Machine Learning: Supervised and unsupervised algorithms, Neural Network, Deep Learning, Data pipelines, Tensorflow
· Statistics: Quatitative analysis, Probability, Bayesian methods, Hypothesis test, AB test, etc

EXPERIENCE

· *Research Associate*, **Michigan State University**, East Lansing, MI — Feb 2018 - present
· *Research Associate*, **University of North Carolina at Chapel Hill**, NC — Sep 2015 - Jan 2018
· *Assistant Professor*, **Tohoku University**, Sendai, Japan — Jul 2013 - Aug 2015
· *Research Fellow*, **Free University of Brussels**, Brussels, Belgium — Jun 2011 - Dec 2012
· *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)
· Recommendation for the location of opening an new bussiness (Geocoding, Foursquare API, Folium, KMeans)

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++

· Manipulate large amounts of data ($\sim$ 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

· IBM Data Science Professional Certificate, IBM, December 2018
· Applied Data Science with Python, University of Michigan, April 2018

ACHIEVEMENTS

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