

Jianping Lai

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Github: github.com/tbjc1magic

Summary

- Extensive experience on coding and data analysis on Unix system.
- Solid knowledge on programming tools including Python, SQL and C++.
- Quick learner and self-motivated researcher; accomplish projects under minimal supervision.

Skills

Programming: C++ (Monte Carlo Simulation), Python (Numpy, SciPy, Pandas, Sklearn, OpenCV)

Data Science: Tree Based Models, Neural Network, SVM, Clustering, *etc.*

Other: Git, SQL, Google Cloud, Tensorflow, High Performance Computing

Experience

Associate, Nov 2017 - Now

JPMorgan Chase & Co., NJ

- Implement financial models to forecast credit risk and validate model revision.
- Investigate clustering methods on segmenting portfolio data and its impact on credit forecasting.

Research Fellow, Oct 2016 - Nov 2017

University of Notre Dame, IN

- Design SQL database for data storage and implement python based data analysis package for processing large scale of data set (\sim TB).
- Implement neural network model and revise k-mean algorithm to synchronously track multiple particles; the algorithms improve prediction accuracy of the reaction vertex location by \sim 50%.
- Deploy data acquisition system for an advanced nuclear detector; use the system to collect high speed dataflow (>12 GB/hr for single data processing module).

Research Assistant, Jan 2012 - Aug 2016

Louisiana State University, LA

- Develop C++ Monte Carlo simulation to predict statistical distribution for particle energy loss and trajectory; the simulation achieves an accuracy of 95% in energy resolution.
- Perform data mining on large scale experimental datasets using high performance system; fit the data distribution with physics models to extract physical quantities (like reaction spin and parity).

Guest Student, May 2013 - Oct 2015

Argonne National Laboratory, IL

- Lead a team in measuring $^{20}\text{Ne}(\alpha, p)^{23}\text{Na}$ reaction, which is the first direct measurement of the key astrophysical reaction in Type Ia Supernovae.
- Develop software for calibrating and visualizing data from Argonne detector system. The software has been used for critical nuclear reaction measurements.

Education

Physics Ph.D. (4.0/4.0)

Aug 2010 - Aug 2016

Louisiana State University, Baton Rouge, LA

Physics B.S. (90/100)

Aug 2006 - June 2010

Huazhong University of Sci.&Tech., Wuhan, China