Qing Wang

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EDUCATION

University of Oklahoma, Norman, Oklahoma, USA

- Ph.D. in Experimental Particle Physics — Aug 2012 – Dec 2018
  - Thesis: Search for New Physics in the Monotop Final State
  - Adviser: Dr. Phillip Gutierrez
  - Focus: Single top process, new physics, optimization, profile likelihood, neural network, hypothesis testing

Shandong University, Jinan, Shandong Province, China

- B.S. in Physics — Aug 2007 – Jun 2011
  - Cumulative GPA: 3.7 / 4.0
- Research assistant — Jun 2011 – Jun 2012
  - Built and used simulation software to study the μ detectors

PROFESSIONAL SKILLS

- Languages: C++, Python
- Database: MySQL, Hive

PROJECTS

- **Build a Sequence-to-sequence Language Model to Generate Chinese Poems** — Nov 2018
  - Constructed a sequence-to-sequence model using RNN with LSTM cells in TensorFlow
  - Designed an end-to-end training procedure and trained on about 43000 poems to achieve a data-driven language model to generate Chinese poems
- **Churn Prediction for a Popular Online Music Streaming Platform** — Oct 2018
  - Processed a large amount of noisy log data collected from the Internet
  - Engineered features based on the records in the log data using Spark DataFrame
  - Leveraged different classification models for the churn prediction and achieved an AUC score of 0.9 and an accuracy score of 0.85
- **Yelp Dataset Challenge** — Sep 2018
  - Built language understanding models to classify positive and negative reviews using logistic regression, random forest and naive-Bayes classifiers based on the features extracted from the unstructured review texts using natural language processing (NLP) techniques, such as lemmatization, TF-IDF
  - Applied unsupervised learning methods, such as K-means clustering to group users, and identified top user preferences in each group by checking the cluster centroid
  - Created a restaurant recommendation system based on users' past visits and ratings using collaborative filtering and matrix factorization
- **Search for a Top Quark Produced with a Z Boson (tZ)** — May 2016 – Jul 2017
  - Trained a Bayesian neural network to distinguish signal from background using the package NeuroBayes
  - Performed a binned maximum likelihood fit on the neural network output to extract the tZ signal yield
  - Increased the significance of the hypothesis test for the existence of tZ signal to 4.2σ, from 1.3σ using the simple variable analysis

MAIN PUBLICATIONS

[1] "Constraints on mediator-based dark matter and scalar dark energy models using $\sqrt{s}$ = 13 TeV pp collisions at the LHC with the ATLAS detector," *to be submitted to JHEP*

[2] "Search for invisible particles produced in association with single-top-quarks in proton-proton collisions at $\sqrt{s}$ = 13 TeV with the ATLAS detector," *to be submitted to JHEP*

[3] "Measurement of the production cross-section of a single top quark in association with a Z boson in proton–proton collisions at 13 TeV with the ATLAS detector," *Phys. Letter. B*, 780 (2018) 557, Apr 2018

[4] "Performance of b-jet identification in the ATLAS experiment," *J. Instrum.*, 11, P04008 (2016), Apr 2016

AWARDS & SCHOLARSHIPS

- Second Prize Scholarship from College
  For outstanding academic performance
- First Prize for Math Olympiad of High School Students in Suzhou City, Anhui Province