Yu-Ting Shen

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QUALIFICATIONS

- Ph.D. degree with experience in large-scale data analysis and machine learning to build predictive models.
- Proficient in Python, C/C++, SQL and shell script.
- Experienced in Keras, TensorFlow, Spark, and Hadoop.
- Passionate about discovering insights hidden in data in order to tell the story of data to non-experts.
- Excellent analytic and problem-solving skills through critical thinking, and teamwork with colleagues.

SIDE PROJECTS

Build recommender system using Yelp data challenge round 12 dataset

- Built a restaurant recommender system to recommend top 5 restaurants using item-item similarity based collaborative filtering and matrix factorization based on users' past visits and ratings.
- Applied natural language processing (NLP) and sentiment analysis techniques to classify the positive and negative reviews, being able to understand business performance based on users' reviews.
- Identified and understood the common user preference by clustering users into groups and inspecting the cluster centroid of each group.

Sequence-to-sequence natural language generation with deep neural networks

- Collected large amount of dirty textual data from the Internet and processed data for the text generation.
- Used TensorFlow to construct a sequence-to-sequence model using RNN architecture with LSTM cells.
- Designed an end-to-end training procedure to achieve data-driven language modeling for the generation of poems by training more than 40,000 poems.
- Conducted parameters tuning and used GPU acceleration to obtain optimal speed for training the deep neural networks.

EXPERIENCE

University of Oklahoma PostDoc Researcher — Norman, OK | 2018/07 - present

- Investigated 1M+ new experimental records to improve model prediction precision by uncovering the hidden relation between momentum and TPR.
- Generated Monte Carlo simulation data and extracted useful features by applying feature engineering.

CERN Research Scientist — Geneva, Switzerland | 2015/03 - 2018/02

- Established and optimized the data analysis pipeline to reduce 80% CPU time and improved key performance metrics. Programmed in Python to build decision tree and regression models for analysis team.
- Built regression model and applied statistical methods to extract signal within 95% confidence interval.
- Improve true positive rate from 0.85 to 0.93 by developing a new classification model for the electron isolation efficiency which became the standard version for the collaboration.

Academia Sinica Research Scientist — Taipei, Taiwan | 2009/07 - 2011/07

- Discovered serious bugs in simulation programs by performing exploratory data analysis on simulated data. Programmed in C++ to redesign bug-free Monte Carlo simulation programs.
- Improved 50% of the signal significance by devising a new classification model.

Taiwan Semiconductor Manufacturing Company R&D engineer — Hsinchu, Taiwan | 2006/12 - 2009/02

- Led and supported 7 projects to build various models to predict the device performances and documented the model usages and performances.
- Developed a standard operating procedure (SOP) in analysis pipeline to reduced 5% to 10% model variance and instructed colleagues how to apply the SOP in their projects.
- Converted potential clients to paying clients by providing preliminary models matching clients' specifications.
- Coordinated effectively with cross-functional teams and clients to resolve issues with tight deadlines.

EDUCATION

University of Oklahoma Ph.D. in Physics — Norman, OK | 2011/08 - 2018/05

- Published 4 top journal papers and 5 conference notes, and presented in 2 conferences.
- 6 semesters teaching assistant for college and graduate level courses.

National Taiwan University M.S. in Physics — Taipei, Taiwan | 2003 - 2006

- Won 3^{rd} place graduate student thesis awards, The Physical Society of Taiwan, 2006.

Chung Yuan Christian University | B.S. in Physics — Chung Li, Taiwan | 1998 - 2002

- Certificate of Holistic Achievement Award, 1998 - 1999, 1999 - 2000, and 2000 - 2001
- Certificate of Academic Achievement Award, 2000 - 2001