Zhenhong Zou

Contact

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- Interest areas: Sparse Representation, Natural Language Processing, Machine Learning, Convex Optimization

Education

- Aug 2016 – Jun 2020: Beihang University in China, School of Mathematics and System Science. Major: Computational Mathematics.
- Aug 2019 – Aug 2019: HKUST in Hongkong, Dept. of Mathematics, visit student.
- Related Courses:
  - Convex Optimization, Numerical Analysis
  - Probability Theory, Mathematical Statistic, Stochastic Process
  - Machine Learning, Pattern Recognition, Signal Processing

Research

- *2019.06 – present* *University of California, Los Angeles, Dept. of Math*
  - Visiting Student, **Project: Chatbot with Topic Attention**
  - The project focus on combining Non-negative Matrix Factorization (NMF) and RNN to build up a dialog response generation model. By optimizing NMF and applying MCMC algorithm in attention calculation, we improve the computing efficiency of the original model 'Topic Aware Response Generation Attention'. I am also considering sparse representation to improve our model.
  - Supervised by Prof. Deanna Needell and Prof. Hanbaek Lyu.
- *2019.01 – 2019.05* *Beihang University, Dept. of Computer Science*
  - Student intern, **Project: Manifold based Image Restoration**
  - I conducted research on anomaly detection, few-shot learning and write some summary document. Then I joined the image restoration group to provide theoretical support for manifold based generation methods, mainly referring to data dimension reduction and similarity evaluation among image patch.
  - Supervised by Prof. Xianglong Liu.
- *2019.01 – 2019.01* *Qunar.com, Algorithm Innovation Group*
  - Short-term Intern, **Project: Abnormal customer detection algorithm**
- *2018.04 – 2018.10* *Beihang University, Dept. of Math*
  - Student intern, **Project: Sales Curves Forecasting for Unpublished Books**
  - The project focused on forecasting one-year sales curves for unpublished books. The dataset consists around 40,000 old books with only two-year history data. I designed a framework consisting similar books searching, sales curves decomposition and forecasting. Finally I wrote a 12 page paper to conclude my work.
  - Supervised by Prof. Haihui Wang.

Website

- ◊ Personal Website:
- ◊ Github: https://github.com/zouzhenhong98
- ◊ Tech Blog: https://www.cnblogs.com/joezou/

Skill

- ◊ English level: B2 level.
- ◊ Programming: familiar with Python and markdown, beginner in C and Hive.
- ◊ Machine learning framework: sklearn, PyTorch, Tensorflow.

Honor

- ◊ Beihang University 'Yuanhang' Global Study Summer Research Scholarship Award in 2019
- ◊ Sponsored by 13th National College Students' innovation and entrepreneurship training program in 2019, topic about economic analysis
- ◊ Sponsored by 12th National College Students' innovation and entrepreneurship training program in 2018, topic about time series forecasting
- ◊ Social Practice Scholarship in 2017 and 2018, both rank 1st in my university
- ◊ Cofounder of the biggest student media studio in my university

Academic Paper

- ◊ A Practical Approach for Forecasting New Published Books Sales Curves (Unpublished)
- ◊ Sequential Topic Learning with Non-negative Matrix Factorization (Unpublished)
- ◊ Language Quantity and Distribution Evolution Model and its Application in Office Site Selection (Mathematical Contest in Modeling, 2018)
- ◊ Attention Mechanism in NLP (Summary)
- ◊ Manifold Learning in Image Restoration (Summary)