Yuan Yang

General Information

Tel: 412-623-9464 Email: yyang754@gatech.edu
Homepage: gblackout.github.io

Research Interest

I'm interested in interpretable machine learning models and learning methods that can reduce human-supervision. Typical topics and techniques involved in my research are: learning-by-asking, efficient inference on knowledge graph, logic programming and commonsense reasoning.

Education

Georgia Institute of Technology Atlanta, GA
Ph.D. Machine Learning, College of Computing 2018-present

Carnegie Mellon University Pittsburgh, PA
M.S. Computational Data Science, School of Computer Science 2016-2017

Beihang University Beijing, Beijing
B.Eng. Software Engineering, School of Software Engineering 2012-2016

Research Experience

Georgia Institute of Technology, ML Group Atlanta, GA
Research Assistant, advised by Le Song 2019-2020
- Research on symbolic reasoning with deep learning on structured data.

Petuum, Medical Group Pittsburgh, PA
Research Scientist 2017-2018
- Proposed a text classification CNN model for discharge medication prediction.
- Improved model interpretability with factor analysis theory

Carnegie Mellon University Pittsburgh, PA
Team Leader, TREC 2017 LiveQA competition, advised by Eric Nyberg 2017-2017
- Developed a QA system for real-time consumer health QA.
- A ML model that searches in tree-based knowledge graph with federated search engine.

SenseTime, Speech Group Beijing, Beijing
Research & Development Intern 2016-2016
- Implemented/fine-tuned Baidu Deep Speech 2 model.

Rochester University, The Computation and Language Lab Rochester, NY
Research Intern, advised by Steven Piantadosi 2015-2016
- Proposed a nonparametric Bayesian model for simulating human language learning.
- Model learns to represent formal languages with a functional programming system.

Tsinghua University, Statistical AI & Learning Group Beijing, Beijing
Research Intern, advised by Jun Zhu 2014-2016
- Proposed a distributed sampling framework for large-scale topic model inference.
- Framework outperforms state-of-the-art samplers: LightLDA and DSGLD.

Publications

1 Y. Yang, and H. Zhang. Learning by Asking Commonsense Questions, under review *37th International Conference on Machine Learning* (ICML 2020).

2 Y. Yang, and L. Song. Learn to Explain Efficiently via Neural Logic Inductive Learning, *8th International Conference on Learning Representations* (ICLR 2020).

3 Y. Zhang*, X. Chen*, Y. Yang*, A. Ramamurthy, B. Li, Y. Qi, and L. Song. Efficient Probabilistic Logic Reasoning with Graph Neural Networks, *8th International Conference on Learning Representations* (ICLR 2020).

4 X. Si*, Y. Yang*, H. Dai, M. Naik, and L. Song. Learning a Meta-Solver for Syntax-Guided Program Synthesis, *7th International Conference on Learning Representations* (ICLR 2019).

5 Y. Yang, P. Xie, X. Gao, C. Cheng, C. Li, H. Zhang and E. Xing. Predicting Discharge Medications at Admission Time Based on Deep Learning, *arXiv preprint arXiv:1711.01386, 2017*.

6 Y. Yang, J. Yu, Y. Hu, X. Xu and E. Nyberg. A Consumer Health Question Answering System, *Text Retrieval Conference 2017 LiveQA Medical Track* (TREC 2017).

7 Y. Yang and S. T. Piantadosi. One Model For the Learning of Language, *arXiv preprint arXiv:1711.06301, 2016*.

8 Y. Yang, J. Chen and J. Zhu. Distributing the Stochastic Gradient Sampler for Large-Scale LDA, *22nd Conference on Knowledge Discovery and Data Mining* (KDD 2016).

Awards

- 1st Prize in Undergrad. Mathematical Contest in Modeling, CSIAM. 2014
- 2nd Prize in Imagine Cup 2014 Chinese Region, Microsoft. 2014
- National Scholarship, Beihang University. 2014
- 2nd Prize in Beihang Fengru Cup, Beihang University. 2014
- Excellent Student Prize, Beihang University. 2014

Teaching

- Teaching Assistant, Spring 2019, CSE 6740, Computational Data Analysis. 2019
- Seminar Lecturer, VR and Matrix application Lab, Beihang University. 2013-2015