Yuan Yang

GENERAL INFORMATION

Tel: 412-623-9464

Email: yyang754@gatech.edu

Homepage: gblackout.github.io

EDUCATION

Georgia Institute of Technology
Ph.D. Machine Learning, College of Computing

Atlanta, GA
2018-Present

Carnegie Mellon University
M.S. Computational Data Science, School of Computer Science

Pittsburgh, PA
2016-2017

Beihang University
B.Eng. Software Engineering, School of Software Engineering

Beijing, Beijing
2012-2016

RESEARCH INTEREST

I'm interested in developing data-labeling tools and interpretable ML models for graph/vision/QA applications.
Topics: graph and logic reasoning, data programming, QA, computer vision, autonomous driving.

RESEARCH EXPERIENCE

Georgia Institute of Technology
SPC Lab, research assistant advised by Faramarz Fekri

2020-Present

- Developing auto data-labeling tools for vision and driving tasks.

- Studying interpretable models with graph and logic reasoning.

ML Group, research assistant advised by Le Song

2018-2020

- Studied GNN-/logic-based models for efficient graph reasoning.

Amazon, Product Graph Team
Research intern advised by Luna Dong

2020-2021

- Proposed a logic-based model for weakly-supervised entity linkage.

Petuum, Medical Group
Research scientist

2017-2018

- Developed a CNN-based model for discharge medication prediction.

Carnegie Mellon University
TREC 2017, team leader advised by Eric Nyberg

2017-2017

- Developed a graph-based QA system for real-time consumer health QA.

SenseTime, Speech Group
Research & development intern

2016

- Implemented/fine-tuned Baidu Deep Speech 2 model.

Rochester University, The Computation and Language Lab
Research intern advised by Steven Piantadosi

2015-2016

- Proposed a Bayesian model for human language learning simulation.

Tsinghua University, Statistical AI & Learning Group
Research intern advised by Jun Zhu

2014-2016

- Proposed a distributed sampling framework for large-scale LDA inference.

PUBLICATIONS

1 Y. Yang, A. Payani, F. Fekri, and J. Clayton. LogicQA: A Data-Efficient Training Approach to Graph Reasoning by Asking Inductive Logic Questions. *Under review, Thirty-Ninth International Conference on Machine Learning* (ICML 2022).

2 Y. Yang, J. Clayton, and F. Fekri. LogicDef: An Interpretable Defense Framework Against Adversarial Examples via Inductive Scene Graph Reasoning. *Thirty-Sixth AAAI Conference on Artificial Intelligence* (AAAI 2022), **oral presentation**.

3. Y. Yang, and S. T. Piantadosi. One model for the learning of language. *Proceedings of the National Academy of Sciences Feb 2022, 119 (5)* (PNAS).

4. Y. Yang, H. Wei, B. Sisman, C. Faloutsos, L. Dong. OmniLink: Multi-Source Entity Linkage with Logic Rules. *arXiv preprint, 2021*

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

6. 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).

7. 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).

8. 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.*

9. 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).

10. 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

- 3$^{\text{rd}}$ Place in TREC 2017 LiveQA Competition.   2017
- 1$^{\text{st}}$ Prize in Undergrad. Mathematical Contest in Modeling, CSIAM.   2014
- 2$^{\text{nd}}$ Prize in Imagine Cup 2014 Chinese Region, Microsoft.   2014
- National Scholarship, Beihang University.   2014
- 2$^{\text{nd}}$ Prize in Beihang Fengru Cup, Beihang University.   2014
- Excellent Student Prize, Beihang University.   2014

TEACHING

- Teaching Assistant, Fall 2020, CSE 6040, Computing for Data Analysis: Methods and Tools.   2020
- Teaching Assistant, Spring 2019, CSE 6740, Computational Data Analysis.   2019
- Seminar Lecturer, VR and Matrix application Lab, Beihang University.   2013-2015

PROFESSIONAL SERVICE

- Program Committee/Reviewer: ICML 20/21/22, NIPS 20/21, ICLR 21/22, IJICAI 21/22

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*Equal contribution