

# Fan Yang

Carnegie Mellon University

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## Research Interests

I am currently working on machine learning models for human behavior analysis. I have worked on knowledge graph reasoning, information extraction, and neuro-symbolic reasoning.

## Education

2016–now **Ph.D. (in progress) Machine Learning**, Carnegie Mellon University, Pittsburgh, PA.  
Advisors: Tom Mitchell and William W. Cohen

2012–2016 **B.S. Mathematical Sciences**, Carnegie Mellon University, Pittsburgh, PA.  
Additional major in Computer Science, minor in Machine Learning

## Awards and Honors

- **University Honor**, Carnegie Mellon University, 2016
- **College Honor**, Carnegie Mellon University, 2016
- **Undergraduate Presentation Award**, Carnegie Mellon University, 2015
- **Dean's List**, Carnegie Mellon University, 2012-2016

## Publications

- JAIR 2018 William W. Cohen, **Fan Yang**, Kathryn Rivard Mazaitis. TensorLog: A Probabilistic Database Implemented Using Deep-Learning Infrastructure. *Journal of Artificial Intelligence Research*, 2018.
- AKBC 2017 **Fan Yang**, Jiazhong Nie, William W. Cohen, Ni Lao. Learning to Organize Knowledge with N-Gram Machines. *Workshop on Automated Knowledge Base Construction*, 2017.
- NIPS 2017 **Fan Yang**, Zhilin Yang, William W. Cohen. Differentiable Learning of Logical Rules for Knowledge Base Reasoning. *Neural Information Processing Systems*, 2017.
- NIPS 2017 Zihang Dai\*, Zhilin Yang\*, **Fan Yang**, William W. Cohen, Ruslan Salakhutdinov (\*: equal contribution). Good Semi-supervised Learning that Requires a Bad GAN. *Neural Information Processing Systems*, 2017.
- DMTCS 2017 Christopher Coscia, Jonathan DeWitt, **Fan Yang**, Yiguang Zhang. Best and worst case permutations for random online domination of the path. *Discrete Mathematics & Theoretical Computer Science Vol 19.*, 2017.

## Professional Employment

- Fall **Graduate Research Assistant**, Carnegie Mellon University, Pittsburgh, PA.  
2016–now Conduct research in machine learning.

- Summer **Research Intern**, *Allen Institute for Artificial Intelligence (AI2)*, Seattle, WA.  
2018 Combined knowledge and neural networks to improve reinforcement learning performance.
- Summer **Research Intern**, *Google*, Mountain View, CA.  
2017 Designed symbolic memory model for question answering from the web.
- Summer **Data Science Intern**, *Oncora Medical*, Philadelphia, PA.  
2016 Applied metric learning to medical data.
- Summer **Quantitative Analyst Intern**, *Citigroup*, New York, NY.  
2015 Developed indices trading strategies using option market implied probability.
- Spring 2015 **Undergraduate Research Assistant**, *Carnegie Mellon University*, Pittsburgh, PA.  
Improved high-dimensional Bayesian optimization using fixed and adaptive additive models.
- Summer **Undergraduate Research Assistant**, *East Tennessee State University*, Johnson City, TN.  
2014 Worked on enumerative combinatorics and spectral graph theory problems.

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## Selected Coursework

Deep Reinforcement Learning, Probabilistic Graphical Models, Convex Optimization, Statistical Machine Learning.

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## Language Skills

Python, PyTorch, TensorFlow,  $\text{\LaTeX}$   
English, Chinese (native)