HAO YIN

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Education

- **Stanford University**, Stanford, CA — Sept. 2015 – June 2020
  Ph.D. in Computational and Mathematical Engineering [Advisor: Tze Lai. GPA: 4.1/4.0]
  – Research interest: network analysis, causal inference, machine learning, data mining.
- **Fudan University**, Shanghai, China — Sept. 2010 – June 2015
  B.S. in Applied Mathematics [GPA: 3.89/4.0, Rank: 1/220].
  – Award: **Second Place in China**, National College Mathematical Contest in Probability and Statistics.

Publications and Working Papers

- H. Yin, A. R. Benson, J. Leskovec, and D. F. Gleich. Local higher-order graph clustering. In ***KDD***, 2017. [**Oral presentation**. Acceptance rate: 64/748 (8.6%)]
- Y. Chen*, D. Ge*, M. Wang*, Z. Wang*, Y. Ye*, and H. Yin*. Strong NP-hardness for sparse optimization with concave penalty functions. In ***ICML***, 2017. [Acceptance rate: 25%]
- H. Yin, A. R. Benson, and J. Leskovec. Higher-order clustering in networks. ***Phys. Rev. E*** **97**, 2018.
- H. Yin, A. R. Benson, and J. Leskovec. The local closure coefficient: a new perspective on network clustering. In ***WSDM***, 2019. [**Long presentation**. Acceptance rate: 34/511 (6.6%)]
- H. Yin, A. R. Benson, and J. Ugander. Measuring directed triadic closure with closure coefficients. To appear at ***Network Science***, 2020+.
- A. R. Benson*, P. Liu*, and H. Yin*. Clustering in networks from bipartite graph projection. 2020+.
- J. Ugander* and H. Yin*. Randomized graph cluster randomization. Abstract accepted for ***CODE***, 2020+.
- J. Guo, J. Gao, and H. Yin. Road user interaction prediction. 2020+.

Selected Work Experience

- **Software Engineer Intern at Waymo** — June – Sept. 2019
  Project: Road Agent Interaction Understanding
  – Built an end-to-end model for road agent interaction prediction, which utilizes state-of-the-art deep learning framework to extract rich spatial temporal information from raw sensor input.
  – As a use case, applied interaction modeling in trajectory prediction, which reduces the ℓ_2-loss by 10%.
  – This project results in a working paper for submission and a patent application in preparation.
- **Machine Learning Intern at Facebook** — June – Sept. 2018
  Project: Post Content Classification with User Engagement Signal
  – Extracted post embeddings from user-post engagement history with a sparse neural network model.
  – Improved the test accuracy of subtopic classification by 1.5% by adding this embedding feature.
  – Augmented subtopic classification training data by label propagation in the embedding space, which improved the test accuracy by 1%.
- **Research Assistant at InfoLab, Stanford University** — Sept. 2016 – Aug. 2017
  – Conducted research in network analysis, and published three papers in top-tier conferences/journal.
  – Code (C++) incorporated into the Stanford Network Analysis Platform.

Skills

- Programming proficiency: C/C++, Python, SQL, R, MATLAB.
- Specialization: machine learning, deep learning, data mining, optimization, statistics, operations research.
- Others: TensorFlow, PyTorch; MapReduce, Spark; LINUX; GitHub, SVN; LaTeX.