Dr. Meher Pindiprolu

PhD in Network Science, ETH Zürich

PhD in Network Science with over 8 years of research experience in machine learning, graph algorithms and complex networks. Demonstrated track record of publishing in top-tier conferences and working extensively with large-scale graph data, specializing in designing scalable and expressive graph neural networks (GNNs), including graph transformers and foundation models, grounded in principles from network science. Skilled at bridging theory and practice, with a strong ability to translate advanced research into production-ready solutions for real-world ML/AI applications.

Contact

- meherchaitanya.pindiprolu@gmail.com
- `https://meherchaitanya-eth.github.io/`

Skills

Languages: Python, C++

ML & Graph Frameworks: PyTorch, TensorFlow, scikit-learn, DGL, PyTorch Geometric, NetworkX

Graph Learning Methods: Graph Neural Networks, Graph Transformers, Community Detection, Network Science

Recent Publications

Cascade-Rewired Graph Transformer, 2025

Efficient Local Graph Clustering using Higher-Order Random Walks, 2025

Adjacency Search Embeddings, TMLR 2025

Tight Sampling in Unbounded Networks, AAAI, 2024

An SDP relaxation for minimizing Polarization on Networks, Complex Networks XIV, 2024

Awards

Purdue-Qatar Fellowship ($62,000)

Best Paper Award at HiPC

AICTE Fellowship ($8,000)

Work Experience

ML Researcher (John Hopkins University) Sep 2024 – Aug 2025

- Scalable Graph Transformers: Architected sparse attention models handling millions of nodes while enhancing predictive accuracy to 9%.

PhD Researcher (ETH Zürich) Feb 2020 – Sep 2024

- Node Embeddings: Created node embedding algorithms leveraging s-t min-cut and contagion theory; improved node classification performance by 12%.
- Graph Laplacian Learning: Developed framework for link recommendation that provably reduces polarization.
- Unsupervised Clustering: Built first scalable online algorithm for local clustering in multiplex networks (e.g., Twitter).
- Mentoring & Leadership: Led an SNSF-funded project on homophily and disinformation; mentored three Master's students; resulted in four peer-reviewed publications.

HPC Researcher (IIIT Hyderabad) Aug 2013 – May 2016

- High Performance Computing for Parallel Graph Algorithms: Designed scalable parallel solutions for biconnected/triconnected components and all-pairs shortest-paths, delivering up to 4× speedups.

Senior Software Engineer (Nvidia) May 2012 – Jun 2013

- Implemented kernel-level UART, SPI, and I2C drivers for Nvidia Tegra modules deployed in BMW automotive systems.

Education

PhD. in Network Science Feb 2020 – Sep 2024
ETH Zürich, Switzerland
Dissertation: *Influence Processes on Networks*

Master's in Computer Science Jun 2016 – May 2019
Purdue University, USA