# Dr. Meher Pindiprolu

PHD IN NETWORK SCIENCE
ETH ZURICH, SWITZERLAND


+41 77 966 11 86

meherchaitanya.pindiprolu@gmail.com

DoB: 4th Feb 1988


## SKILLS

- ✓ **Languages:** Python, C++, Java
- ✓ **ML & Graph Frameworks:** PyTorch, TensorFlow, scikit-learn, DGL, PyTorch Geometric, NetworkX
- ✓ **Graph Learning Methods:** Graph Neural Networks, Graph Transformers, Community Detection, Network Science

## TOP PUBLICATIONS

- "*Scalable Graph Transformers using Adjacency Search Approaches*", 2025
- "*Adjacency Search Embeddings*" TMLR 2024, 2025
- "*Tight Sampling in Unbounded Network*" AAAI ICWSM, 2024
- "*An SDP relaxation for minimizing Polarization on Networks*" Complex Networks XIV, 2024

## AWARDS

- Purdue-Qatar Fellowship ($62,000)
- Best Paper Award at HiPC'16
- AICTE Fellowship ($8,000)

## PROFILE

PhD in Network Science with over 8 years of research experience in graph algorithms, machine learning, and complex networks. Demonstrated track record of publishing in top-tier conferences and working extensively with large-scale graph data. I specialize in designing scalable and expressive graph neural networks (GNNs), including graph transformers, 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 and data science applications.

## WORK EXPERIENCE

**Research Assistant**
ETH Zürich | Jan 2019 - Dec 2024

- **Scalable Graph Transformers:** Architected sparse attention models handling millions of nodes while enhancing the predictive accuracy to 9%.
- **Node Embeddings:** Created node embedding algorithms for GNNs by leveraging s-t min-cut and contagion theory; improved node classification performance by 12%.
- **Graph Laplacian Learning:** Developed a graph Laplacian learning framework for link recommendation that provably reduces polarization, outperforming state-of-the-art approaches.
- **Unsupervised Clustering:** Developed the first scalable online algorithm for local clustering in multiplex networks (e.g., Twitter), learning interaction priorities directly from data to uncover community structure in real time.
- **Mentoring & Leadership:** Led the SNSF-funded project on homophily and disinformation in social media, mentoring three Master's students in collaboration with partners in India; resulted in four peer-reviewed publications.

**Research Assistant**
IIIT Hyderabad, India | Aug 2013 – May 2016

- **Parallel Graph Algorithms:** Designed scalable parallel solutions for biconnected/triconnected component detection and all-pairs shortest-paths, delivering up to 4× and 1.6× speedups over leading benchmarks.

**Senior Software Engineer**
Nvidia | May 2012 - Jun 2013

- **Embedded Systems & Driver Development:** Implemented kernel-level UART, SPI, and I2C drivers for Nvidia Tegra modules deployed in BMW automotive systems.

## EDUCATION

**PhD. in Network Science**
ETH Zürich, Switzerland | Feb 2020 – Dec 2024

- **Dissertation:** *Influence Processes on Networks*

**Master's in Computer Science**
Purdue University, West Lafayette, USA | Jun 2016 – May 2019