PULKIT GOPALANI

Bob and Betty Beyster Building, 2260 Hayward St, Ann Arbor, MI 48109

gopalani@umich.edu | Website | Google Scholar | Github

EDUCATION

University of Michigan, Ann Arbor   *Aug '23 – Present*

Doctor of Philosophy (PhD), Computer Science & Engineering

Working on theoretical foundations of deep learning.

Advisor: Prof. Wei Hu

Indian Institute of Technology, Kanpur   *Jul '18 – Jul '23*

Bachelor of Technology, *Double Major* (5–year program)   Grade: **9.4/10**

Electrical Engineering, Computer Science & Engineering

Honors – Academic Excellence Award (top 10% grade) for 2018, '18–19, '19–20, '21–22; graduated with Distinction.

PUBLICATIONS

[1] **Global Convergence of SGD On Two Layer Neural Nets.**   [Paper]
Pulkit Gopalani, Anirbit Mukherjee.

DeepMath 2022 (Extended abstract).

[2] **Capacity Bounds for the DeepONet method of solving Differential Equations.**   [Paper]
Pulkit Gopalani, Sayar Karmakar, Anirbit Mukherjee.

DeepMath 2022 (Extended abstract).

[3] **Investigating Overparameterization while solving the Pendulum with DeepONets.**   [Paper]
Pulkit Gopalani, Anirbit Mukherjee.

NeurIPS 2021 Workshop on The Symbiosis of Deep Learning and Differential Equations (DLDE).

COURSE PROJECTS

– **Neural Collapse in Deep Learning**   *Convex Optimization, Mar – Apr '23*
Analysed and extended theoretical results on Neural Collapse phenomenon in deep learning.

– **Audio Signal Processing**   *Digital Signal Processing, Jul '21*
Implemented audio signal processing using frequency-based filters.

SKILLS

Programming Languages	Python, C/C++
Frameworks & Libraries	PyTorch, JAX
Utilities	Git, LaTeX

VOLUNTEERING

○ **Course Mentor**, *Introduction to Machine Learning* (CS771), Aug–Nov '22, IIT Kanpur.

○ **Reviewer**, *Symbiosis of Deep Learning and Differential Equations* (NeurIPS 2021 Workshop).