

PULKIT GOPALANI

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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.

– **VAEs meet Energy-based Models**

Probabilistic ML, Feb – May '21

Implemented Variational AutoEncoders (VAE) + Energy-based models [\[Xiao et al., 2021\]](#).

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).