Utkarsh Sharma, PhD

PhD 2021 (Machine Learning and Physics)
usharma7@jhu.edu
https://u-sharma.github.io

Education

Johns Hopkins University — 2017 - 2021
PhD (Advsor: Jared Kaplan, co-creator of GPT-3)

Indian Institute of Technology Bombay — 2013 - 2017
Bachelor of Technology (Electrical Engineering)

Experience

X, the Moonshot Factory (Google X) — 2020
Research Intern (Machine Learning)

Tata Institute of Fundamental Research, Mumbai — 2015 - 2017
Visiting Researcher (Physics)

Humboldt University, Berlin — 2016
Visiting Researcher (Physics)

Publications (ML)

Explaining Neural Scaling Laws
Y. Bahri, E. Dyer, J. Kaplan, J. Lee, U. Sharma
arXiv:2102.06701 [cs.LG]

A Neural Scaling Law from the Dimension of the Data Manifold
U. Sharma, J. Kaplan
arxiv:2004.10802 [cs.LG]

Publications (Physics)

AdS_3 reconstruction with general gravitational dressings
H. Chen, J. Kaplan and U. Sharma.
arXiv:1905.00015 [hep-th]
DOI:10.1007/JHEP07(2019)141

Currents and radiation from the large D black hole membrane
S. Bhattacharyya, A. Mandal, M. Mandlik, U. Mehta, S. Minwalla, U. Sharma and S. Thakur.
arXiv:1611.09310 [hep-th]
DOI: 10.1007/JHEP05(2017)098

Honors

Finalist in 3 minute thesis competition, JHU — 2021
Graduated in top 10 percentile — 2017
Class of 2017, IIT Bombay
Indian Institute of Teachnology, Joint Entrance Examination (IIT-JEE) — 2013
Ranked 101 out of over 500000 candidates
Indian National Physics Olympiad — 2013
Among top 35 achievers from across India
Indian National Mathematical Olympiad — 2013
Among top 35 achievers from across India
Regional Mathematical Olympiad — 2013
State Rank 5 in the state of UP, the largest state in India
Kishor Vaigyanik Protsahan Yojana (KVPY) fellowship — 2012-2013
Among top 100 awardees from across Indi

Projects	**Luni-Solar Calendar (Panchanga)** Designed singlehandedly from ground up using NASA's astronomical data.	2020-2021
	COVID-19 Design Challenge: Optimal Routing Algorithm Organized by the Johns Hopkins Center for Bioengineering Innovation and Design. Our project was recommended by Dr Kevin Munjal, EMS System Director, Mount Sinai Health System, New York City	March 2020
Unpublished Work	**Optimization with Birkhoff Polytopes** (Undergraduate Thesis) https://www.academia.edu/29808831/Optimization_with_Birkhoff_Polytopes	
Other Activities	**Outreach**: Participated in the Johns Hopkins physics fair to showcase physics research in a simple, practical manner to school students	2018,2019