

SNEH PANDYA

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RESUME SUMMARY

Motivated PhD candidate in physics with 4+ years of experience in machine learning, having published multiple machine learning papers and possessing a rigorous foundation in mathematics, statistics, and physics. History of collaborative work with other researchers at the NCSA and NSF IAIFI. Additional years of experience in teaching undergraduates at Northeastern University and engaging with high school audiences through outreach activities. My interests lie in utilizing machine learning with physics-informed priors to solve relevant and complex problems in scientific research, finance, and healthcare.

RELEVANT EXPERIENCE

SPIN Intern & NSF REU Fellow

August 2019 - May 2021

National Center for Supercomputing Applications

Urbana, IL

· Developed effective machine learning algorithms and neural networks to weigh supermassive black holes. Utilized supercomputing clusters, collaborated with many machine learning researchers working in biophysics, neuroscience, and healthcare, and gave 5+ seminar talks and poster presentations on ongoing work. Recipient of \$1500 Fiddler Innovation Fellowship award.

PUBLICATIONS

S. Pandya*, F. O*, P. Patel*. E(2)-Equivariant Steerable Convolutional Neural Networks for Robust Galaxy Morphology Classification. *In progress*.

S. Pandya*, J. Lin*, D. Pratap, X. Liu, M. Kind, V. Kindratenko. AGNet: Weighing Black Holes with Deep Learning. Monthly Notices of the Royal Astronomical Society. arXiv:2108.07749. *2022*.

S. Pandya*, J. Lin*, D. Pratap, X. Liu, M. Kind. AGNet: Weighing Black Holes with Machine Learning. NeurIPS Machine Learning for the Physical Sciences. arXiv:2011.15095. *2020*.

EDUCATION

Northeastern University

2021-Present

Ph.D., Physics (*MS awarded*)

Adviser: Jim Halverson

University of Illinois at Urbana-Champaign

2017-2021

B.S., Physics, Minors in Mathematics & Astronomy

GPA: 3.79/4.00

Treasurer of Sigma Nu Fraternity

CONFERENCES & PRESENTATIONS

Mathematical Physics Days, *Oral Presentation (Invited)*(Video) 2021

Illinois Astrofest, *Poster (1st Place)* 2021

Neural Information Processing Systems (NeurIPS) Workshop, *Poster* (Video, Poster) 2020

Illinois Undergraduate Research Symposium, *Poster* (Video, Poster, Press) 2020

SKILLS

Programming: Python (PyTorch, scikit-learn, Pandas, SciPy, NumPy), RStudio

Software: Mathematica, Git, LaTeX, Slurm

Skills: Data Visualization & Interpretability, Quantitative Analysis, Presentation & Communication

Other: Photography, Concerts, Tennis / Table tennis