PUNEESH DEORA

Email: deora.puneesh@gmail.com, Website: puneesh00.github.io

 |

EDUCATION

University of British Columbia

Ph.D. in Electrical and Computer Engineering	2024 - 2028
M.A.Sc in Electrical and Computer Engineering	2022 - 2024

Advisor: Prof. Christos Thrampoulidis

Indian Institute of Technology Roorkee

B. Tech. in Electronics and Communication Engineering	2016 - 2020

Thesis Advisors: Prof. Saumik Bhattacharya & Prof. P. M. Pradhan

RESEARCH INTERESTS

Science of LLMs, ML Theory, Optimization

PUBLICATIONS AND PREPRINTS

Implicit Bias and Fast Convergence Rates for Self-attention
B. Vasudeva*, **P. Deora***, C. Thrampoulidis   *BGPT@ICLR 2024; Under review*

On the Training and Generalization of Multi-head Attention
P. Deora*, R. Ghaderi*, H. Taheri*, C. Thrampoulidis   *TMLR; HiLD@ICML 2023*

Fast Test Error Rates for Gradient Methods on Separable Data
P. Deora*, B. Vasudeva*, V. Sharan, C. Thrampoulidis   *HiLD@ICML 2023; ICASSP 2024*

On weighted cross-entropy for label-imbalanced separable data: An algorithmic-stability study
P. Deora, C. Thrampoulidis   *ICASSP 2023*

Compressed Sensing MRI Reconstruction with Co-VeGAN: Complex-Valued Generative Adversarial Network
B. Vasudeva*, **P. Deora***, S. Bhattacharya, P. M. Pradhan   *WACV 2022*

LoOp: Looking for Optimal Hard Negative Embeddings for Deep Metric Learning
B. Vasudeva*, **P. Deora***, S. Bhattacharya, U. Pal, S. Chanda   *ICCV 2021*

Structure Preserving Compressive Sensing MRI Reconstruction using Generative Adversarial Networks
P. Deora*, B. Vasudeva*, S. Bhattacharya, P. M. Pradhan   *CVPR Workshops 2020*

(*equal contribution)

EXPERIENCE

UBC | Graduate Research Assistant   *2022-*
Advisor: Prof. Christos Thrampoulidis

ISI Kolkata | Visiting Researcher, CVPR Unit   *June'20 - June'21*
Advisors: Prof. Saumik Bhattacharya & Prof. Umapada Pal

IIT Roorkee | Undergraduate Researcher   *June'19 - July'20*
Advisors: Prof. Saumik Bhattacharya & Prof. P. M. Pradhan
Thesis: Compressive Sensing MRI Reconstruction using GANs

Awards and Academic Achievements

· UBC Four Year Doctoral Fellowship (4YF)	*2024*
· Selected for EEML Summer School	*2021*
· Singhal's Tech. for Society Award for **best undergraduate thesis** at institute level	*2020*
· 3AI Pinnacle Student of the Year Award for **undergraduate thesis**	*2020*
· Finalist INAE Innovative Student Projects Award for **undergraduate thesis**, 30 national nominees	*2020*
· Secured IIT JEE Advanced **All India Rank 1123**, 99.4 percentile	*2016*

Service

· **Reviewer**: ICLR 2024-25, NeurIPS 2023-24, TMLR
· **Volunteer**: ICML 2021, ICLR 2021

Teaching Experience

· TA for ELEC221: Signals and Systems, Spring'23 at UBC

Other Projects

· Invariant Risk Minimization and its failure cases; CPSC532S, UBC	[Report]
· Low-light Image Enhancement; IIT Roorkee	[Code, Report]