

Devansh Bisla

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Education and Awards

PhD, Electrical and Computer Engineering, New York University 2018 - Present

- Advisor: Dr. Anna Choromanska

- Awarded School of Engineering Fellowship

M.S, Electrical and Computer Engineering, New York University 2016 - 2018

- Thesis Advisor: Dr. Anna Choromanska

- with Dr. Yao Wang "High Frequency Ultrasound Image Segmentation and Analysis"

- Awarded Graduate Student Scholarship

B.E, Electronics and Communication, Manipal Institute of Technology 2012 - 2016

- with Dr. K. S Venkatesh, IIT Kanpur "Estimating Road Traffic Parameters from an unmanned aerial vehicle"

Research Experience

Current Projects.....

Estimating Sample Complexity in Deep Neural Networks June, 2019 - Present

D. Bisla, A. Nandini, A. Choromanska

- The most common and effective strategy in deep learning to improve performance and reduce generalization error is to collect more training data *but* the fundamental question: "how much data do we need to achieve certain desirable performance?" still remains open. We aim to present a practical and predictive probabilistic method to model the relationship between training data sizes and error rate.

Publications/Technical Reports.....

Towards Automated Melanoma Detection with Deep Learning, <https://bit.ly/3e7Vmv8> CVPR - ISIC, 2019

D. Bisla, A. Choromanska, R. S. Berman, J. A. Stein, D. Polsky

VisualBackProp for Learning using Privileged Information with CNNs, <https://bit.ly/2XsKstY> Axive, 2018

D. Bisla, A. Choromanska

Conference Reviewer.....

ICML - 2018, 2019, NIPS - 2018, 2019, AAAI - 2019,2020, AISTATS - 2020

Professional Experience

Work Experience.....

Machine Learning Intern, Hearst - New York Summer, 2018

- Developed content based image retrieval from Hearst's digital asset management system. We utilized FAISS; a nearest neighbor search tool on image features extracted from pre-trained deep models.
- Developed image tagging and visualization tool based on t-distributed stochastic neighbor embedding (t-SNE).
- Real-time speech to text translation system utilizing Kaldi; a C++ based speech recognition toolkit.

Computer Skills

Programming Languages: Python, C, C++, MATLAB, SQL.

Softwares/Packages: Pytorch, Vowpal Wabbit, scikit-learn, OpenCV, Github, Docker, Kaldi

Relevant Coursework

Data Structures and Algorithms | Advanced Machine learning | Numerical Optimization | System Optimization Methods | Numerical Methods | Probability and Stochastic Processes | Linear Algebra | Digital Signal processing