

Yash Bhalgat

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EDUCATION

University of Michigan, Ann Arbor, MI Dec '18 (expected)
Masters, Computer Science and Engineering, **GPA:** 3.89/4.0
Graduate Student Instructor, Computational Data Science, Prof. Raj Nadakuditi

Indian Institute of Technology, Bombay, 2013 - 2017
B.Tech. with Honors in EE and Minor in Computer Science, **GPA:** 9.44/10.0

SKILLS

Languages Python, C++, MATLAB, Java, Verilog, R, Bash, Julia (basic)
Packages PyTorch, OpenAI gym, Keras, TensorFlow, OpenCV, CUDA, python-flask, git

WORK EXPERIENCE

IBM Almaden Research Center, Mentor - Zhe Liu [Summer '18]
• Task-agnostic classification in the presence of label noise in train data (specifically, sentiment classification)
• Built deep learning and ensemble frameworks to integrate weakly-labelled and high-quality training samples.

Vision and Learning lab, University of Michigan [Fall '17]
• Human Pose Estimation and Tracking in videos, *Guide: Prof. Jia Deng*
• Developed a Stacked Hourglass network + BiLSTM model in PyTorch for human pose estimation.

IFP Energies nouvelles, Paris, Mentor - Laurent Duval [Summer '17]
• Paper accepted in ICASSP - Categorization of seismic structures with scattering wavelet networks
• Proposed method to extract deformation invariant features of geophysical images, followed by feature selection.

IBM Research, Bangalore, Mentor - Vikas Raykar [Summer '16]
• Joint multi-modal representations for e-commerce catalog search by visual attributes
• Built auto-encoder CorrNets in TensorFlow for fast search on large fashion catalogues without manual tagging.

Tata Research Design and Development Center, Pune [Dec '15]
• Shape based automatic stamp verification/detection in documents using unsupervised feature learning
• Paper accepted in DAS conference. Stamp detection accuracy 94% and segmentation IoU 74.81% [[arXiv](#)]

PUBLICATIONS

- **Teacher-Student Learning Paradigm for Tri-training: An Efficient Method for Unlabeled Data Exploitation**
Yash Bhalgat, Zhe Liu, Pritam Gundecha, et. al., AAAI 2019 (submitted)
- **Iris Classification Using Scattering Wavelet Network: An application to De-duplication**
P. Birajadar, Yash Bhalgat, Vikram Gadre, *International Journal of Biometrics* (submitted)
- **CatsEyes: Categorizing seismic structures with scattering wavelet networks**
Yash Bhalgat, Laurent Duval, Jean Charlety, *ICASSP 2018* [[link](#)] [[Poster](#)]
- **Stamp Processing with Exemplar Features**
Yash Bhalgat, Mandar Kulkarni, Shirish Karande, Sachin Lodha, *DAS 2016* [[arxiv](#)]

KEY COURSE PROJECTS

- **Scattering Wavelet Network based approach to Fingerprint Classification**, Undergraduate Thesis
- **Convolutional Neural Network from scratch**, Advanced Computer Vision [[github](#)]
- **Sarcasm detection in sentences**, Machine Learning (CS 725) [[github](#)]
- **Segmentation of MRI images using Expectation Maximization**, Estimation and Identification
- **Computer Vision and Image Processing algorithms acceleration with CUDA**, High Performance Scientific Computing [[github](#)]