Yash Sanjay Bhalgat

Curriculum Vitae *Primary email: yashbhalgat95@gmail.com*

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EDUCATION

University of Michigan, Ann Arbor, MI **Dec '18 (expected)**
Masters, Computer Science and Engineering

- **GPA**: 3.8/4.0

Indian Institute of Technology, Bombay, **2013-2017**
B.Tech. with Honors in Electrical Engineering and *Minor* in Computer Science

- **GPA**: 9.44/10

RELEVANT COURSES Machine Learning, High Performance Scientific Computing, Advanced Computer Vision, Digital Image Processing, Matrix Computations, Design and Analysis of Algorithms, Data Structures and Algorithms, Probability and Data Analysis, Microarchitecture, Complex Analysis, Calculus

Experience

TECHNICAL SKILLS

- ***Languages:*** (high to low) Python, C++, MATLAB, Java, R, Julia, Bash, Verilog, SQL (basic)
- ***Packages:*** PyTorch, Theano, TensorFlow, OpenCV, CUDA, python-flask

WORK EXPERIENCE

VISION AND LEARNING LAB, Univeristy of Michigan *[Fall '17 - Ongoing]*
Human Pose Estimation
Developing a PyTorch framework of the Stacked Hourglass network for human pose estimation.

IBM RESEARCH, Bangalore *[Summer '16]*
Joint multi-modal representations for e-commerce catalog search by visual attributes
Fast autoencoder-based (CorrNets) search on large fashion catalogues without manual tagging.

TATA RESEARCH DESIGN AND DEVELOPMENT CENTER, India *[Dec '15]*
Object recognition in document images with semisupervised deep learning [arXiv]
Detection accuracy 94% and segmentation IoU 74.81% on stamp detection - segmentation.

INFURNIA, Mumbai *[Summer '15]*
Software module development using CAD modelling engine
Created *constraint-modules* functions in FreeCAD with backward compatibility in Python, C++.

FOCUS ANALYTICS, Mumbai *[Dec '14]*
Indoor Navigation System - Pedometry
Developed a real-time pedometry-based indoor navigation system accurate to **1-1.5 meters**.

MARS SOCIETY OF INDIA, IIT Bombay *[Aug '14 - Mar '15]*
Navigation and Vision ROS subsystem
Built an A-star algorithm for video-guided nav for a semi-autonomous prototype of a Mars rover.

KEY COURSE PROJECTS

- **Convolutional Neural Network from scratch**, Advanced Computer Vision [github]
- **Exploring machine-learning ranking systems through the Yelp dataset**, Information Retrieval
- **Sarcasm detection in sentences**, Machine Learning (CS 725) [github]
- **Computer Vision and Image Processing algorithms acceleration with CUDA**, High Performance Scientific Computing [github]
- **Emotion from Speech extraction (CNNs, HMMs)**, DSP Poster presentation [github]
- **Automated Stellarium Laser Pointing device**, Electronic Design Lab [youtube-demo]

SCHOLASTIC ACHIEVEMENTS

- All India Rank **12** in IITJEE-Mains exam among 1.5 mil students and AIR 155 in JEE-Advanced
- All India Rank (AIR) **60** in KVPY Scholarship by Govt. of India among 0.2 million candidates
- Featured in National Top 30 for the International Astronomy Olympiad, 2013
- Among top 300 in India to compete in the Physics, Chemistry and Mathematics olympiads
- Awarded Cargill Global Scholarship 2014-15 and selected in the 10-member Indian cohort to represent at the global seminar in Minneapolis, USA in 2016