

EDUCATION

Indian Institute of Technology Bombay <i>Btech. in Electrical Engineering</i> <i>Minor in Computer Science and Engineering</i> <i>Minor in AI and Data Science</i> <i>Honors in Electrical Engineering</i>	Mumbai, India 2017–Current GPA: 9.43/10
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PUBLICATIONS

- **Size Optimization for Intent Analysis in Voice Commanding**[\[Paper\]](#)
Parth Shettiwar, Koushiki Chaudhuri, Ankit Jain, Shivam Goel, Abhirupa Mitra
Work Accepted in Short Paper Track at MLADS-Synapse 2020, Microsoft’s internal ML, AI and Data Science conference

RESEARCH AND INTERNSHIP EXPERIENCE

Deep Weakly-Supervised High Speed High Dynamic Range Video Generation [Abstract] [Video] <i>Guide : Prof. Shanmuganathan Raman</i>	Mar '20 - Present IIT Gandhinagar
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Dec '20
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- # Parth Milind Shettiwar

EDUCATION

Indian Institute of Technology Bombay	Mumbai, India
<i>Btech. in Electrical Engineering</i>	2017–Current
<i>Minor in Computer Science and Engineering</i>	GPA: 9.43/10
<i>Minor in AI and Data Science</i>	
<i>Honors in Electrical Engineering</i>	

PUBLICATIONS

- Size Optimization for Intent Analysis in Voice Commanding**[Paper]
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<i>Minor in Computer Science and Engineering</i>	GPA: 9.43/10
<i>Minor in AI and Data Science</i>	
<i>Honors in Electrical Engineering</i>	

PUBLICATIONS

- Size Optimization for Intent Analysis in Voice Commanding**[Paper]
Parth Shettiwar, Koushiki Chaudhuri, Ankit Jain, Shivam Goel, Abhirupa Mitra
Work Accepted in Short Paper Track at MLADS-Synapse 2020, Microsoft’s internal ML, AI and Data Science conference

RESEARCH AND INTERNSHIP EXPERIENCE

Deep Weakly-Supervised High Speed High Dynamic Range Video Generation [Abstract][Video] <i>Guide : Prof. Shanmuganathan Raman</i>	Mar ’20 - Present IIT Gandhinagar
<ul style="list-style-type: none">Devised the first weakly supervised deep learning framework to generate high Frame Rate High Dynamic Range video from a sequence of low Frame Rate alternating exposure Low Dynamic Range frames.Implemented Video Frame Interpolation Technique incorportaing Depth and Flow estimations to generate multiple high and low exposure LDR frames recursively at each time step.Implemented a Novel Attention-based merge network for generating HDR video frames using two exposure LDR images. Work was submitted to SIGGRAPH Asia 2020.	
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Offline Voice Commanding in Microsoft Word App [Code][Report] <i>Microsoft R&D India/Data Scientist Internship</i>	May ’20 - July’20

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Data Generation for Person Intrusion Detection Using Human Pose Transfer [[Architecture](#)] *Dec '19 - Jan '20*
Guide : Prof. Shanmuganathan Raman/Research Internship *IIT Gandhinagar*

- Proposed a novel **2-way GAN** for Human Pose Transfer conditioned on input image and a target pose.
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OSR - Open Set Recognition using Side Information [[Code](#)] *May '19-July '19*
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- Implemented Kernel Null Folley-Sammon Transform(**KNFST**) after learning a Discriminative Dictionary for sparse coding via Label Consistent K-SVD(**LC-KSVD**) to achieve >99.9% training accuracy on MNIST dataset
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OTHER TECHNICAL PROJECTS

Efficient Neural Machine Translation

Guide: Prof.Pushpak Bhattacharyya / Course (Speech, Natural Language Processing and the Web)

Dec '20
IIT Bombay

- Built a NMT model based on RNNsearch model with **minimal parameters** and **Time taken** for training on Multi30K dataset, to achieve a decent Bleu score as compared to a standard Transformer
- Implemented **Adversarial training** to avoid overfitting on dataset to further improve the Bleu score

Maze Solver

Guide: Prof.Shivaram Kalyanakrishnan / Course (Foundations of Intelligent and Learning Agents)

Sept-Oct 2020
IIT Bombay

- Modelled a Maze as a Markov Decision Process with appropriate rewards and transitions.
- Found the shortest path from a given start point to multiple end points in a maze using Value Iteration algorithm.

Chunk Tagger

Guide: Prof.Pushpak Bhattacharyya / Course (Speech, Natural Language Processing and the Web)

Aug-Sept 2020
IIT Bombay

- Classified the chunk tags of phrases using a Maximum Entropy Markov Model, Conditional Random field and Bi-LSTM.
- Performed extensive feature engineering incorporating morphological features to achieve >90% accuracy on conll2000 dataset.

Image Inpainting using the Deep Image Prior

Guide: Prof. Biplab Banerjee / Course Project (Machine Learning for Remote Sensing-II)

Oct-Nov 2019
IIT Bombay

- Exploited the inherent property of CNN to **reluctantly** fit on a noisy image when started with uniform noise to get off the **Prior term** and reconstruct the original image in a **zero-shot fashion**
- Developed an hour-glass(Encoder-Decoder) architecture with skip connections to maximise the **likelihood** term, subsequently producing the near original image even when **80% of random pixels** are removed.

Adversarial Reprogramming of Neural Networks

Guide: Prof. Ajit Rajwade & Prof. Suyash Awate / Course Project (Digital Image Processing)

Oct-Nov 2019
IIT Bombay

- Computed a adversarial perturbation added to all test inputs to reprogramme ImageNet classification model on CIFAR-10
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E-Voting using Blockchain

Microsoft Codefundo++

July '19

- Created a **dApp** in **Geth** framework to build a secure and fast **Electronic Voting system** using **Blockchain** in **Solidity**
- Generated **Transaction ID** for **vote verification** after the voter votes from a region using a **ballot smart contract**

Coherent Optical Receiver

Prof. Ashwin Gumasthe/Course Project (Computer Networks)

April '19
IIT Bombay

- Simulated a **Coherent Optical Receiver** in Matlab performing Homodyne and Heterodyne Detection
- Studied the **Quantum Noise** properties of coherent detection

Pipeline Processor IITB RISC

Guide : Prof.Virendra Singh /Course Project/ Electrical Engineering Department

March '19
IIT Bombay

- Created a 16 bit **6-stage pipelined processor** based on **Little Computer Architecture** using **VHDL**.
- Implemented **Finite State Machines** for the execution of **15 instructions** with **single and double wide fetch execution**
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Emotion TV

Institute Technical Summer Project, IIT Bombay

May '18 - Jun '18
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- Conceptualized and implemented recognition of two emotions **-Happy** and **Sad** using **Multi-Layered CNN**, to predict the current mood of the person after training on 200+ images dataset
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TEACHING

- Teaching Assistant** at IIT Bombay in Collaboration with ERUDITUS
Artificial Intelligence and Machine Learning(AI-ML)

Spring 2021

- Teaching Assistant** at IIT Bombay
Machine learning -II for Remote Sensing (GNR 638)

Autumn 2020

SCHOLASTIC ACHIEVEMENTS

- Awarded **AP grade**(Top 1%) for outstanding performance in both **Basic** and **Advance** level courses of **Machine Learning for Remote Sensing** [2019]
- Secured **All India Rank 170** in Joint Entrance Exam-Advanced(JEE) with a **perfect score** of **122/122** in Maths [2017]
- Recipient of the prestigious **Kishore Vaigyanik Protsahan Yojana (KVPY)** fellowship(SA Stream) with **All India Rank 275** [2016]
- Successfully cleared **NSEC** and appeared for **Indian National Chemistry Olympiad(INChO)** [2016-17]
- Successfully cleared **NSEA** and appeared for **Indian National Astronomy Olympiad(INAO)** [2015-16]
- Recipient of **National Talent Search Examination(NTSE)** fellowship [2015]
- Successfully cleared **NSEJS** and appeared for **Indian National Junior Science Olympiad** [2014]
- Achieved **International Rank 2** in 2015 and **Rank 3** in 2012 in **National Science Olympiad** conducted by Science Olympiad Foundation.

TECHNICAL SKILLS

- Programming Languages:** Python, C++, Java, VHDL, HTML, L^AT_EX
 - Libraries:** OpenCV, Keras, Tensorflow, PyTorch, sklearn, NumPy
 - Software Skills and Circuit Boards:** Android Studio, Quartus, Robot Operating System(ROS), Unity3D
git, MATLAB, AutoCAD, SolidWorks, NGSpice, Arduino
- [letterpaper,10pt]article
enumitem wrapfig microtype titlesec verbatim geometry hyperref
[style=ieee,url=false,doi=false,maxbibnames=99,sorting=ydnt,dashed=false]biblatex papers
simplecv a4paper,bottom = 0.4in,top=10mm,right = 0.3in,left=.1in fontspec xcolor

Website: [parth-shettiwar.github.io](#)
Email: parth_shettiwar@iitb.ac.in
GitHub: [github.com/parth-shettiwar](#)
- # Parth Milind Shettiwar

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