Rudrabha **Mukhopadhyay**

PH.D. SCHOLAR · DEEP-LEARNING RESEARCHER

CVIT, IIIT Hyderabad, Gachibowli, Hyderabad, Telangana, 500032, India

(+91) 8001462050 | radrabha.m@research.iiit.ac.in | https://rudrabha.github.io/ | Rudrabha | rudrabha | @RudrabhaM |

Date-of-birth: 12/07/1996

"We, as a community, need to remain explorers."

Experience

Center for Visual Information Technology, IIIT-Hyderabad
Hyderabad, India

PH.D. SCHOLAR
Aug. 2018 - PRESENT

- Supervisors: Prof. C.V. Jawahar, Prof. Vinay Namboodiri.
- Currently working on "The Interplay of Speech and Lip Movements".
- My interests are in "multi-modal deep learning" and how we can generate one modality from the other(s).
- Attempted problems include creating speech-to-talking face videos, lip-to-speech and audio-visual speech enhancement.
- Multiple publications in top conferences (like CVPR) since April, 2019.

Applied Research Laboratory, IIIT-Hyderabad
Hyderabad, India

RESEARCH FELLOW
Jun. 2018 - Aug. 2018

- Supervisor: Prof. C.V. Jawahar.
- Worked on "Image tampering detection".
- Implemented previously published neural networks for the problem in Tensorflow.
- Attended both the CV and ML summer schools during this period organized at IIIT Hyderabad.

Cyber Physical Systems Group (CPS), CSIR-CEERI
Pilani, India

SUMMER RESEARCH INTERN
Jun. 2017 - Aug. 2017 (On-site) & Aug. 2017 - Jun. 2018 (Remote)

- Supervisors: Prof. Santanu Chaudhuri, Dr. Manoj Sharma.
- Worked on various image enhancement algorithms.
- Worked on image super-resolution, image inpainting, RGB-to-hyperspectral image generation, image denoising.
- Published 3 papers in national and international conferences.
- Helped in completion of a corporate sponsored project. I created a working system that enhanced a document image by removing various kinds of noises and super resolving the image. This in turn improved the word and character accuracy of standard OCRs for such degraded documents.

Education

Internation Institute of Information Technology, Hyderabad (IIIT-H)
Hyderabad, India

PH.D. IN COMPUTER SCIENCE AND ENGINEERING
Aug. 2018 - PRESENT

- Attached to: Center for Visual Information Technology
- Supervisors: Prof. C.V. Jawahar, Prof. Vinay Namboodiri
- Field: Computer Vision, Deep Learning, Multi-modal Learning, Self-supervised Learning
- Current focus is on "The Interplay of Speech and Lip Movements"
- Published 3 papers in A* rated conferences, 1 paper in an A rated conference.

Heritage Institute of Technology (Under Maulana Abul Kalam Azad University of Technology)
Kolkata, India

B.TECH IN COMPUTER SCIENCE AND ENGINEERING
Aug. 2014 - Jun. 2018

- DGPA: 7.63/10

DAV Model School, IIT Kharagpur
Kharagpur, India

ALL INDIA SENIOR SCHOOL CERTIFICATE EXAMINATION
April. 2012 - Jun. 2014

- Percentage: 93%

DAV Model School, IIT Kharagpur
Kharagpur, India

ALL INDIA SECONDARY SCHOOL EXAMINATION
April. 2002 - Jun. 2012

- CGPA: 9.6/10

Publications

Lip-to-speech Synthesis For Any Speaker With Limited Data
Virtual

SUBMITTED TO CVPR, 2021 (PAPER IS UNDER REVIEW)
Nov., 2020

- Authors: **Rudrabha Mukhopadhyay***, Prajwal K R*, Sindhu Hegde*, Vinay Namboodiri and Jawahar C V

Visual Speech Enhancement without a Real Visual Stream
Virtual (Originally in Waikoloa, USA

ACCEPTED IN WACV, 2021
Jan., 2021

- Authors: Sindhu Hegde*, Prajwal K R*, **Rudrabha Mukhopadhyay***, Vinay Namboodiri and Jawahar C V
- Links: [Project Page] · [Codes & Models] · [Paper]

A Lip Sync Expert Is All You Need For Speech To Lip Generation In The Wild
Virtual (Originally in Seattle, USA)

PUBLISHED IN ACM INTERNATIONAL CONFERENCE ON MULTIMEDIA, 2020
Oct., 2020

- Authors: Prajwal K R*, **Rudrabha Mukhopadhyay***, Vinay Namboodiri and Jawahar C V
- Links: [Project Page] · [Codes & Models] · [Paper] · [Demo Video]
- The paper was presented in an oral session.

Learning Individual Speaking Styles for Accurate Lip to Speech Synthesis
Virtual (Originally in Seattle, USA)

PUBLISHED IN CVPR, 2020
Jun., 2020

- Authors: Prajwal K R*, **Rudrabha Mukhopadhyay***, Vinay Namboodiri and Jawahar C V
- Links: [Project Page] · [Codes & Models] · [Paper] · [Demo Video]

IndicSpeech: Text-to-Speech Corpus for Indian Languages
Virtual

PUBLISHED IN LREC, 2020
May, 2020

- Authors: Nimisha Srivastava, **Rudrabha Mukhopadhyay***, Prajwal K R*, Jawahar C V
- Links: [Project Page] · [Paper]

Towards Automatic Face-to-Face Translation
Nice, France

PUBLISHED IN ACM INTERNATIONAL CONFERENCE ON MULTIMEDIA, 2019
Oct., 2019

- Authors: Prajwal K R*, **Rudrabha Mukhopadhyay***, Jerin Philip, Abhishek Jha, Vinay Namboodiri and Jawahar C V
- Links: [Project Page] · [Codes & Models] · [Paper] · [Demo Video]
- The paper was presented in an oral session.

Irgun: Improved residue based gradual up-scaling network for single image super resolution
Salt Lake City, USA

PUBLISHED IN CVPR WORKSHOPS, 2018
Jun., 2018

- Authors: Manoj Sharma, **Rudrabha Mukhopadhyay**, Avinash Upadhyay, Sriharsha Koundinya, Ankit Shukla, Santanu Chaudhury
- Links: [Paper] · [Codes & Models]

2D-3D CNN based architectures for spectral reconstruction from RGB images
Salt Lake City, USA

PUBLISHED IN CVPR WORKSHOPS, 2018
Jun., 2018

- Authors: Sriharsha Koundinya, Himanshu Sharma, Manoj Sharma, Avinash Upadhyay, Raunak Manekar, **Rudrabha Mukhopadhyay**, Abhijit Karmakar, Santanu Chaudhury
- Links: [Paper]

An End-to-End Deep Learning Framework for Super-Resolution Based Inpainting
Mandi, India

PUBLISHED IN NCVPRIPG, 2017
Dec., 2017

- Authors: Manoj Sharma, **Rudrabha Mukhopadhyay**, Santanu Chaudhury, Brejesh Lall
- Links: [Paper]
- The paper was presented in an oral session.

Other Public Presentations

The Interplay of Speech and Lip Movements
Virtual (Originally in Milan, Italy

PUBLIC DEMONSTRATION AT ICPR, 2021 (INVITED)
Jan., 2021

- Authors: **Rudrabha Mukhopadhyay***, Sindhu Hegde*, Prajwal K R*, Vinay Namboodiri and Jawahar C V
- Links: [Website] · [Demo Video] · [Report]

Learning Individual Speaking Styles for Accurate Lip to Speech Synthesis
Virtual

ORAL PRESENTATION IN VISION-INDIA SESSION, ICVGIP, 2020
Dec., 2020

- Authors: Prajwal K R*, **Rudrabha Mukhopadhyay***, Vinay Namboodiri and Jawahar C V
- Links: [Video] · [Slides]

The Interplay of Speech and Lip Movements   *Virtual (Originally in Scotland*
Public Demonstration at ECCV, 2020   *Aug., 2020*
- Authors: Prajwal K R*, **Rudrabha Mukhopadhyay***, Vinay Namboodiri and Jawahar C V
- Links: [Website] · [Demo Video] · [Report]

Towards Automatic Face-to-Face Translation   *Hubbali, India*
Oral Presentation in Vision-India Session, NCVPRIPG, 2019   *Dec., 2019*
- Authors: Prajwal K R*, **Rudrabha Mukhopadhyay***, Jerin Philip, Abhishek Jha, Vinay Namboodiri and Jawahar C V
- Links: [Video & Materials] · [Slides]

Volunteering Experience

WACV, 2021   *USA*
Reviewer   *Oct. 2020*
- Reviewed two papers in WACV, 2021

HPC Cluster, IIIT-Hyderabad   *Hyderabad, India*
Student System Administrator   *May. 2019 - PRESENT*
- Student system administrator for two HPC clusters in IIIT-Hyderabad
- Cluster 1: ADA (Contains 252 GPUs and 2520 CPUs), Cluster 2: Cosmos (Contains 20 GPUs and 200 CPUs)
- I manage around 400 user accounts
- I was instrumental for acquiring new storage devices after taking over as the administrator.

Voluntary Blood Donor   *Kharagpur, India*
Blood Bank, Kharagpur Sub-Divisional Hospital   *Jul. 2014 - PRESENT*
- Donated blood multiple times since July, 2014.

Skills

Programming	Python, C/C++, JAVA, LaTeX, Shell Scripting
Libraries	Tensorflow, PyTorch, Keras, Scikit-learn, OpenCV
Web	HTML, CSS, JavaScript
Others	SysAd in Linux, SLURM
Languages	English, Bengali, Hindi

Honors & Awards

2019   **Google Travel Grant**, Google Research, India   *Bangalore, India*

References

Prof. C.V. Jawahar	Professor and Dean R&D, IIIT Hyderabad
Prof. Vinay Namboodiri	Associate Professor, IIT Kanpur
Prof. Santanu Chaudhury	Professor & Director, IIT Jodhpur [Link to recommendation letter]
Prof. Soumya Kanti Ghosh	Professor, IIT Kharagpur
Prof. Partha Pratim Das	Professor, IIT Kharagpur