

# Rohit Gupta

Citizen of India, Currently present in US on F1 visa status

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## Education

2019 - Ongoing	<b>PhD. in Computer Science</b> , University of Central Florida, Orlando
2015 - 2017	<b>M.Tech. in Computer Science and Engineering</b> , IIT Kanpur, Kanpur, India
2010 - 2014	<b>B.Tech. in Electrical Engineering</b> , IIT Kanpur, Kanpur, India

## Selected Publications

CVPR 2023	<b>Class Prototypes based Contrastive Learning for Classifying Multi-Label and Fine-Grained Educational Videos</b> <b>R Gupta</b> , A Roy, S Kim, C Christensen, T Grindal, S Gerard, M Cincebeaux, A Divakaran, M Shah (Private Pre-Print: <a href="https://drive.google.com/file/d/1sIa27ueYGU6DRvHOApkCMcMMdpXXDMkG/">https://drive.google.com/file/d/1sIa27ueYGU6DRvHOApkCMcMMdpXXDMkG/</a> )
AAAI 2023 Citations: 2	<b>Contrastive Self-Supervised Learning Leads to Higher Adversarial Susceptibility</b> <b>R Gupta</b> , N Akhtar, A Mian, M Shah Link to Pre-Print: <a href="https://arxiv.org/abs/2207.10862">https://arxiv.org/abs/2207.10862</a>
ICPR 2020 Citations: 51	<b>RescueNet: Joint building segmentation and damage assessment from satellite imagery</b> <b>R Gupta</b> , M Shah Link: <a href="https://ieeexplore.ieee.org/document/9412295">https://ieeexplore.ieee.org/document/9412295</a>
MediaEval 2018 Citations: 15	<b>Linear Models for Video Memorability Prediction Using Visual and Semantic Features</b> <b>R Gupta</b> , K Motwani Link: <a href="http://ceur-ws.org/Vol-2283/MediaEval_18_paper_31.pdf">http://ceur-ws.org/Vol-2283/MediaEval_18_paper_31.pdf</a>
CVIU, Jun '22 Citations: 78	<b>TCLR: Temporal Contrastive Learning for Video Representation</b> I Dave, <b>R Gupta</b> , M N Rizve, M Shah Link: <a href="https://www.sciencedirect.com/science/article/pii/S1077314222000376">https://www.sciencedirect.com/science/article/pii/S1077314222000376</a>

## Work Experience

### SRI International

RESEARCH INTERN

Menlo Park (remote)

May-August 2022

- Developed multi-label, multi-modal prototype contrastive learning to solve fine-grained video content understanding.

### Conduent Labs (erstwhile Xerox Research Center India)

Bangalore, India

RESEARCH ENGINEER, COMPUTER VISION

Sep. 2017 - Jul. 2019

- Contributed to a variety of projects in Computer Vision: Video memorability prediction, Analyzing multi-modal data for smart-city applications, Instance recognition and image classification for augmented reality (AR) and appearance based re-identification of cars for traffic flow analysis.

### Fuzzy Logix

Bangalore, India

DATA SCIENTIST

Jul. 2014 - Jun. 2015

- Developer on DB Lytix™ suite of machine learning, statistical and financial algorithms embedded into data warehouses like Teradata™, Netezza™
- Developed an open-source R frontend for DB Lytix™ Available at: <https://github.com/Fuzzy-Logix/AdapteR/>

## Achievements

2021	<b>1st Place and Jury Prize</b> , VI-Priors Action Recognition Challenge, ICCV
2019	<b>Fellowship</b> , ORCGS Doctoral Fellowship, UCF
2018	<b>1st Place</b> , MediaEval 2018: Predicting Media Memorability Task
2010	<b>National Rank 433 (Top 0.1%)</b> , Joint Entrance Exam, Indian Institutes of Technology

## Service

2022-present	<b>Reviewer</b> , CVPR, ECCV, ICCV, AAAI, IEEE Journals (TIP, TNNLS, TCSVT)	
2020, 2022	<b>Mentor</b> , NSF Research Experiences for Undergraduates, UCF-CRCV REU Site	
2015-16	<b>Teaching Assistant</b> , Courses: Fundamentals of Computing, Machine Learning Tools & Techniques	IIT Kanpur

## Recent Research Projects

### Multi-Label Contrastive Learning for Fine-Grained Educational Video Classification

SRI & UCF

INTERNSHIP AND GRADUATE RESEARCH PROJECT

2022

- Achieved state of the art results on a novel dataset of education videos and two prior benchmark datasets (YouTube-8M and COIN)

### Robustness of Contrastive Self-Supervised Representations

UCF

GRADUATE RESEARCH AS LEAD RESEARCHER

2021

- Provided theoretical arguments and empirical evidence to identify the root cause of the adversarial vulnerability of contrastive self-supervised models, leading to design of a new method for training adversarially robust self-supervised models, outperforming the state of the art by about 5%

### Temporal Contrastive Learning of Video Representation

UCF

GRADUATE RESEARCH AS COLLABORATOR

2021

- Devised a state-of-the-art self-supervised contrastive learning approach for video classification by enforcing temporal distinctiveness in feature space.