

Rajeev Yasarla

CONTACT INFORMATION 7085 CHARTMANT DRIVE APT 40
San Diego, CA - 92122, USA

Phone: (+1) 4436302422

Email: rajeevyasarla19@gmail.com

SUMMARY I am a Senior Machine Learning Researcher at Qualcomm AI Research, with a Ph.D. in Electrical Engineering from the Department of Electrical and Computer Engineering at Johns Hopkins University, advised by Vishal M. Patel. My research has been recognized at top venues, including receiving the **Best Paper Award at IEEE ICIP 2021**. My broad research interests span Computer Vision, Machine Learning, 3D Vision, and Robotics. I have worked on a diverse set of topics, including Vision-Language-Action (VLA) models for Robotics and end-to-end autonomous driving, video depth estimation, low-level image restoration and enhancement, image segmentation, and domain adaptation.

[\[Homepage\]](#) [\[Google Scholar\]](#) [\[Linkedin\]](#)

EDUCATION	Johns Hopkins University, Baltimore, USA Ph.D. in Electrical Engineering Advisor: Prof. Vishal.M.Patel Thesis: Deep Learning-Based Approaches For Image Restoration	(Sep 2018 - May 2022)
	Indian Institute of Technology Madras, Chennai, India B.Tech and M.Tech in Electrical Engineering Advisor: Prof. A.N. Rajagopalan Thesis: Pedestrian detection and tracking for driver assistance	(Jul 2011 - May 2016)

PROFESSIONAL EXPERIENCE

Senior Machine Learning Researcher, Qualcomm AI Research, San Diego, CA (Nov 2022 – Present)
 Lead research on Reinforcement learning-based generative rollouts and planning for Vision-Language-Action (VLA) robotics, autonomous driving, and 3D perception. Developed language-grounded scenario generation, scene editing, and agent prediction pipelines enabling LLMs to learn semantically grounded world models for better planning and control. Presented VLA end-to-end autonomous driving demo at CES 2026 and NeurIPS 2025.
 Lead research on monocular video depth estimation using future prediction, long-term memory, and diffusion/text-conditioned depth generation to enhance temporal consistency and scene understanding.

Computer Vision Research Scientist, AIBEE, Palo Alto, CA (June - Oct 2022)
 Research on single view joint object detection and tracking.

Johns Hopkins University, Baltimore, MD (Ph.D.) (Aug 2018 - May 2022)
 Research on computer vision and machine learning with a specific focus on deep learning based image restoration, salient object detection, face enhancement, medical image segmentation and domain adaptive object detection.

Research Intern, AIBEE, Palo Alto, CA (May - Aug 2021)
 Research on unsupervised salient object detection.
 Proposed novel method to generate pseudo labels and data augmentation technique.

Research Intern, Microsoft Corp., Seattle, WA (May - Aug 2020)
 Face Enhancement of images with noise, blur, and low-light conditions project.
 This project was patented, [US Patent 11,526,972](#).

Project Assistant, Dept. of ECE, IISc, Bangalore (Sept 2017 - June 2018)
 Research on joint denoising and deblurring.

IIT Madras, Chennai (Masters Thesis) (June 2015 - May 2016)
 Research on driver assistance pedestrian and object detection.

AWARDS

- **Best paper Award**, IEEE International Conference on Image Processing, 2021.
- Awarded student travel grant for attending ICCV 2019, by UIUC in association with ICCV organizing committee.
- Ranked among top 0.4% of nearly 1 million students in IITJEE 2011.
- Awarded First prize in National Fox Hunt Event of Shastra 2013, Technical fest of Indian Institute of Technology, Madras.

CONFERENCE

1. **R. Yasarla**, D Hegde, S Han, H Cheng, Y Shi, M Sadeghigooghari, S Mahajan, A Bhattacharyya, L Liu, R Garrepalli, T Svantesson, F Porikli, H Cai, *Generative Scenario Rollouts for End-to-End Autonomous Driving*, **CVPR**, 2026.
2. **R. Yasarla**, S Han, H Cheng, L Liu, S Mahajan, A Bhattacharyya, Y Shi, R Garrepalli, H Cai, F Porikli, *RoCA: Robust Cross-Domain End-to-End Autonomous Driving*, *arxiv*, 2025.
3. D Hegde*, **R. Yasarla***, H Cai, S Han, A Bhattacharyya, S Mahajan, L Liu, R Garrepalli, V Patel, F Porikli, *Distilling Multi-modal Large Language Models for Autonomous Driving*, **CVPR**, 2025. “*” means equal contribution.
4. **R. Yasarla**, S Han, H Cai, F Porikli, *DySS: Dynamic Queries and State-Space Learning for Efficient 3D Object Detection from Multi-Camera Videos*, **CVPR Workshops**, 2025.
5. **R. Yasarla**, MK Singh, H Cai, Y Shi, J Jeong, Y Zhu, S Han, R Garrepalli, F Porikli, *FutureDepth: Learning to Predict the Future Improves Video Depth Estimation*, **ECCV**, 2024.
6. **R. Yasarla**, J.M.J. Valanarasu, V.M. Patel, *Self-Supervised Denoising Transformer with Gaussian Process*, **IEEE WACV**, 2024.
7. **R. Yasarla**, R Weng, W Choi, V Patel, A Sadeghian, *3SD: Self-Supervised Saliency Detection With No Labels*, **IEEE WACV**, 2024.
8. **R. Yasarla**, H Cai, J Jeong, Y Shi, R Garrepalli, F Porikli, , *MAMo: Leveraging Memory and Attention for Monocular Video Depth Estimation*, **ICCV**, 2023.
9. **R. Yasarla**, C.E. Priebe, V.M. Patel, *ART-SS: An Adaptive Rejection Technique for Semi-Supervised restoration for adverse weather-affected images*, **ECCV**, 2022.
10. J.M.J. Valanarasu, **R. Yasarla**, V.M. Patel, *TransWeather: Transformer-based Restoration of Images Degraded by Adverse Weather Conditions*, **CVPR**, 2022.
11. **R. Yasarla**, V.A. Sindagi, V.M. Patel, *Unsupervised Restoration of Weather-affected Images using Deep Gaussian Process-based CycleGAN*, **ICPR**, 2022. - **oral presentation**
12. N.G. Nair,, **R. Yasarla**, V.M. Patel, *NBD-GAP: Non-Blind Image Deblurring without Clean Target Images*, In Proc. of The IEEE **ICIP**, 2022.
13. **R. Yasarla**, H.V. Joze, V.M. Patel, *Network Architecture Search for Face Enhancement*, In IEEE **EUSIPCO**, 2022. - **oral presentation**
14. **R. Yasarla**, V.M. Patel, *Learning to Restore Images Degraded by Atmospheric Turbulence Using Uncertainty*, In Proc. of The IEEE **ICIP**, 2021. - **Best Paper Award**
15. **R. Yasarla**, V.A. Sindagi, V.M. Patel, *Syn2Real Transfer Learning for Image Deraining using Gaussian Processes*, In IEEE/CVF **CVPR**, 2020. - **oral presentation**
16. V.A. Sindagi*, P Oza*, **R. Yasarla** and V.M. Patel, *Prior-based Domain Adaptive Object Detection for Adverse Weather Conditions*, **ECCV**, 2020.

17. V.A. Sindagi, **R Yasarla**, D S Babu, R. V. Babu and Vishal M. Patel, *Learning to Count in the Crowd from Limited Labeled Data*, **ECCV**, 2020.
18. **R Yasarla**, V.M. Patel, *Uncertainty Guided Multi-Scale Residual Learning-using a Cycle Spinning CNN for Single Image De-Raining*, In IEEE/CVF **CVPR**, 2019.
19. V.A. Sindagi, **R Yasarla**, V.M. Patel, *Pushing the Frontiers of Unconstrained Crowd Counting: New Dataset and Benchmark Method*, In IEEE **ICCV**, 2019.

JOURNALS

1. **R Yasarla**, V.M. Patel, *CNN-based Restoration of a Single Face Image Degraded by Atmospheric Turbulence*, In IEEE **TBIOM**, 2022.
2. **R Yasarla**, V.A. Sindagi, V.M. Patel, *Semi-Supervised Image Deraining Using Gaussian Processes*, In IEEE **TIP**, 2021.
3. V.A. Sindagi, **R Yasarla**, V.M. Patel, *JHU-CROWD++: Large-Scale Crowd Counting Dataset and A Benchmark Method*, In IEEE **TPAMI**, 2020.
4. **R Yasarla**, V.M. Patel, *Confidence Measure Guided Single Image De-raining*, In IEEE **TIP**, 2020.
5. **R Yasarla**, F Perazzi, V.M. Patel, *Deblurring Face Images using Uncertainty Guided Multi-Stream Semantic Networks*, IEEE **TIP**, 2020.
6. **R Yasarla***, J.M.J. Valanarasu*, V.M. Patel, *Exploring Overcomplete Representations for Single Image Deraining using CNNs*, In IEEE **JSTSP**, 2020.
7. J.M.J. Valanarasu, **R Yasarla**, P Wang, I Hacihaliloglu, V.M. Patel, *Learning to Segment Brain Anatomy from 2D Ultrasound with Less Data*, In IEEE **JSTSP**, 2020.

PATENTS

1. **R Yasarla**, V Ravi Kumar, SK Yogamani, *MEMORY ORIENTED GAUSSIAN PROCESS BASED MULTI-OBJECT TRACKING*, US Patent App. 18/339,408, 2024.
2. **R Yasarla**, H Cai, J Jeong, R Garrepalli, Y Shi, F Porikli, *Monocular image depth estimation with attention*, US Patent App. 18/538869, 2024.
3. H.V. Joze, **R Yasarla**, *Simultaneously correcting image degradations of multiple types in an image of a face*, US Patent 11,526,972, 2022.

BOOK CHAPTER

1. **R Yasarla**, F Perazzi, V.M. Patel, *Deblurring Face Images Using Deep Networks*, Deep Learning-Based Face Analytics-2021, Advances in Computer Vision and Pattern Recognition.

TECHNICAL SKILLS

Programming Languages:- *Python, C, C ++*
Softwares and Tools:- *Pytorch, Matlab, Tensorflow, OpenCV, L^AT_EX*

TEACHING EXPERIENCE

Introduction to Digital Signal Processing, ECE Dept., WSE, JHU (Fall '19, Fall '20, Fall '21)

Course Instructor: Prof. Vishal M. Patel

Data Structures and Algorithm, Dept. of Electrical Eng., IIT Madras (Spring '16)
Course Instructor: Prof. G Venkatesh

Basic Electrical Engineering, Dept. of Electrical Eng., IIT Madras (Fall '15)
Course Instructor: Prof. Ananth Krishnan

OTHER
ACTIVITIES

- Reviewer, Neurips, ICLR, CVPR, ICCV, ECCV, IEEE TIP, WACV, IJCV, AVSS, Pattern Recognition Letters and IEEE Signal Processing Magazine.
- Lead Coordinator of Shaastra Circuit Design Challenge event in Shaastra 2014, IIT Madras.