Oindrila Saha

PhD Student, UMass Amherst
Advisor: Prof. Subhransu Maji

Personal Website
osaha@umass.edu
Google Scholar

EDUCATION

University of Massachusetts Amherst *2021 - present*
PhD in Computer Science

Indian Institute of Technology Kharagpur *2014 - 2019*
B.Tech (E&ECE) + M.Tech (Honours) in Visual Information Processing and Embedded Systems
Minor in Computer Science and Engineering

EXPERIENCE

Meta Reality Labs Pittsburgh *2022*
Research Intern with Dr. Fabian Prada and Dr. Zhe Cao
- Multi-view/pose dense image correspondence.

Microsoft Research India *2019 - 2021*
Research Fellow with Dr. Prateek Jain and Dr. Harsha Simhadri
- Computer vision for resource-constrained devices

Adobe Research India *2018*
Research Intern with Dr. Niyati Chhaya
- NLP for social media analysis

PUBLICATIONS

YouDream : Generating Anatomically Controllable Consistent Text-to-3D Animals
Sandeep Mishra*, **Oindrila Saha***, Alan C. Bovik
*Neural Information Processing Systems (**NeurIPS**), 2024.*

Improved Zero-Shot Classification by Adapting VLMs with Text Descriptions
Oindrila Saha, Grant Van Horn, Subhransu Maji
*Computer Vision and Pattern Recognition (**CVPR**), 2024.*

Improving Few-Shot Part Segmentation using Coarse Supervision
Oindrila Saha, Zezhou Cheng, Subhransu Maji
*European Conference on Computer Vision (**ECCV**), 2022.*

GanOrCon: Are Generative Models Useful for Few-shot Segmentation?
Oindrila Saha, Zezhou Cheng, Subhransu Maji
*Computer Vision and Pattern Recognition (**CVPR**), 2022.*

RNNPool: Efficient Non-linear Pooling for RAM Constrained Inference. MSR Blog
Oindrila Saha, Aditya Kusupati, Harsha Vardhan Simhadri, Manik Varma and Prateek Jain.
Spotlight *(3% acceptance) at Neural Information Processing Systems (**NeurIPS**), 2020.*
*WiCV workshop @ Computer Vision and Pattern Recognition (**CVPR**), 2020.*

RecSal : Deep Recursive Supervision for Visual Saliency Prediction.
Sandeep Mishra* and **Oindrila Saha***.
*British Machine Vision Conference (**BMVC**), 2020.*

IDRiD: Diabetic Retinopathy–Segmentation and Grading Challenge.
Prasanna Porwal, [and 56 others, including **Oindrila Saha**]
*Medical Image Analysis (**MedIA**) Journal, 2020 .*

Learning with Multitask Adversaries using Weakly Labelled Data for Semantic Segmentation in Retinal Images.
Oindrila Saha, Rachana Sathish and Debdoot Sheet.
Long Oral *at Medical Imaging with Deep Learning, (**MIDL**), 2019.*
🏆 **Selected for Special Issue submission in Medical Image Analysis journal**.

Do events change opinions on social media? A case study of the 2016 US Presidential Debates.
Sopan Khosla, Niyati Chhaya, Shivam Jindal, **Oindrila Saha** and Milind Srivastava.
*International Conference Social Informatics, (**SocInfo**) 2019.*

Workshops:

Decomposed evaluations of geographic disparities in text-to-image models
Abhishek Sureddy*, Dishant Padalia*, Nandhinee Periyakaruppan*, **Oindrila Saha**, Adina Williams,
Adriana Romero-Soriano, Megan Richards[+], Polina Kirichenko[+], Melissa Hall[+]
TiFA Workshop @ ICML 2024 and Next Gen AI Safety Workshop @ ICML 2024

C3DAG: Controlled 3D Animal Generation using 3D pose guidance
Sandeep Mishra*, **Oindrila Saha***, Alan C. Bovik
*AI3DG Workshop @ Computer Vision and Pattern Recognition (**CVPR**), 2024.*

PARTICLE: Part Discovery and Contrastive Learning for Fine-grained Recognition.
Oindrila Saha and Subhransu Maji.
*ViPriors Workshop @ International Conference on Computer Vision (**ICCV**), 2023.*

**Fully Convolutional Neural Network for Semantic Segmentation of Anatomical Structure and
Pathologies in Colour Fundus Images Associated with Diabetic Retinopathy**.
Oindrila Saha, Rachana Sathish and Debdoot Sheet.
*Diabetic Retinopathy Challenge Workshop @ International Symposium of Biomedical Imaging (**ISBI**), 2018.*
🏆 **2nd in leaderboard and 3rd in on-site challenge workshop**.

Crowdsourcing for Chromosome Segmentation and Deep Classification.
Monika Sharma*, **Oindrila Saha***, Anand Sriraman, Ramya Hebbalaguppe, Lovekesh Vig and Shirish Karande.
*CVMI Workshop @ Computer Vision and Pattern Recognition, (**CVPR**), 2017.*

*[+] - equal contribution

SOFTWARE

1. **EdgeML: Machine Learning for resource-constrained edge devices**.
   Microsoft Research India

SELECTED AWARDS AND HONORS

- Young Researcher at Heidelberg Laureate Forum (**HLF '20**). *2020*
- Awarded **Charpak Research Internship Scholarship** by Embassy of France (to top 20
  students over India) to conduct research in a French Laboratory. *2017*
- Awarded **Best Project** among 23 research intern teams by Big-Data Experience Lab, Adobe. *2018*
- Among top 1% (300) students in India in Astronomy, Physics and Mathematics National Olympiads. *'10,'13,'14*
- Awarded KVPY Fellowship from Government of India. *2012*
- Awarded NTSE Scholarship from Government of India. *2009*

RESPONSIBILITIES

- ***Teaching Assistant*** - UMass Amherst
  - CS 682 Neural Networks - *Prof. Subhransu Maji, Prof. Chuang Han* *Fall 2023*
- ***Teaching Assistant*** - IIT Kharagpur
  - Digital Signal Processing - *Prof. Gautam Saha* *Autumn 2018*
  - Network Theory Lab - *Prof. Arijit De* *Spring 2019*
- ***Mentoring***
  - UMass ERSP (Early Research Scholars Program for Undergrad students)
  on ongoing project on object counting *Fall 2023*
  - UMass 696DS (UMass industry mentorship for Master's students)
  on ongoing project on bias in text-to-image generative models *Spring 2024*
- ***Reviewer*** - BMVC 2020, CVPR 2022-24, ECCV 2022-24, ICCV 2023, Neurips 2023-24, WACV 2023