

# Sounak Mondal

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## RESEARCH INTERESTS

I am interested in research on **vision-language modeling**. My PhD thesis focuses on using **vision-language representation learning** and **multimodal foundation models (e.g., Multimodal LLM)** for modeling human visual attention (eye gaze).

## EDUCATION

**Stony Brook University**, Stony Brook, NY

Doctor of Philosophy, Computer Science (**GPA: 4.0/4.0**)

Aug 2020 – Dec 2025 (Expected)

Advisors: Minh Hoai Nguyen, Dimitris Samaras, Gregory Zelinsky

**Jadavpur University**, Kolkata, India

Bachelor of Engineering, Computer Science & Engineering (**GPA: 8.65/10, Rank: 3/54**)

Aug 2013 – May 2017

## EXPERIENCE

### Meta

**Research Scientist Intern**, Reality Labs Research, Burlingame, CA

Jun 2025 – Present

- Modeling Vision and Sensor Data via Multimodal LLMs.

**Research Scientist Intern**, Reality Labs Research, Redmond, WA

Jun 2024 – Dec 2024

- Vision-Language Modeling of Eye Gaze Behavior (paper published at ICCV'25).

### CV Lab, Stony Brook University

**Graduate Researcher**, Stony Brook, NY

Nov 2020 – Present

- Vision-Language Modeling for gaze prediction (CVPR'23, ECCV'24), and gaze decoding (ICCV'25).
- Gaze prediction modeling for search (ECCV'22, CVPR'24, CVPR'25); multimodal modeling for gaze estimation (ECCV'24).
- Modeling attentional states, e.g., mind-wandering vs. sustained attention, from eye gaze during online learning (ongoing).

### Samsung

**NLP Engineer**, Natural Language Processing Team, Bangalore, India

Jun 2017 – Aug 2020

- Enhancements of **Bixby** virtual assistant.
- Low resource intent classification via transfer learning
- Sequence labeling models for Named Entity Recognition and speech end-point detection
- Lightweight and fast text classification architecture (ICSC'20)

**Summer Intern**, SVoice Team, Bangalore, India

May 2016 – Jul 2016

- Context awareness in SVoice platform for Natural Language Processing

### UII America

**Research Intern**, Computer Vision, Cambridge, MA

May 2023 – Aug 2023

- Vision-Language Modeling: Scene Graph Generation from captions using Large Language Models (LLMs).

### Indian Statistical Institute

**Undergraduate Researcher**, Kolkata, India

Jul 2015 – Jun 2017

- Video Action Recognition/Detection (ICAPR'17, ICVGIP Workshop'16).

## SELECTED PUBLICATIONS

**Generative Gaze Decoding via Multimodal LLMs**

Under submission

**Sounak Mondal**, D. Samaras, G. Zelinsky, M. Hoai

**Gaze-Language Alignment for Zero-Shot Prediction of Visual Search Targets from Human Gaze Scanpaths**

ICCV 2025

**Sounak Mondal**, N. Sendhilnathan, T. Zhang, Y. Liu, M. Proulx, M.L. Iuzzolino, C. Qin, T.R. Jonker

**Look Hear: Gaze Prediction for Speech-directed Human Attention**

ECCV 2024

**Sounak Mondal**, S. Ahn, Z. Yang, N. Balasubramanian, D. Samaras, G. Zelinsky, M. Hoai

**Gazeformer: Scalable, Effective and Fast Prediction of Goal-Directed Human Attention**

CVPR 2023

**Sounak Mondal**, Z. Yang, S. Ahn, D. Samaras, G. Zelinsky, M. Hoai

### Few-shot Personalized Scanpath Prediction

R. Xue, J. Xu, **Sounak Mondal**, H. Le, G. Zelinsky, M. Hoai, D. Samaras

CVPR 2025

### Unifying Top-down and Bottom-up Scanpath Prediction using Transformers

Z. Yang, **Sounak Mondal**, S. Ahn, R. Xue, G. Zelinsky, M. Hoai, D. Samaras

CVPR 2024

### Target-absent Human Attention

Z. Yang, **Sounak Mondal**, S. Ahn, G. Zelinsky, M. Hoai, D. Samaras

ECCV 2022

### Diffusion-Refined VQA Annotations for Semi-Supervised Gaze Following

Q. Miao, A. Graikos, J. Zhang, **Sounak Mondal**, M. Hoai, D. Samaras

ECCV 2024

### Characterizing Target-absent Human Attention

Y. Chen, Z. Yang, S. Chakraborty, **Sounak Mondal**, S. Ahn, D. Samaras, M. Hoai, G. Zelinsky

CVPRW 2022

## SELECTED AWARDS

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- ICCV 2025 Doctoral Consortium
- CVPR 2023 Travel Grant Award
- ACM Best B.E. Thesis Award, 2017

## ACADEMIC & TECHNICAL DETAILS

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**Graduate Courses:** Computer Vision, Natural Language Processing, Robotics, Machine Learning, Database Systems

**Languages & Frameworks:** Python, PyTorch, TensorFlow, C++, C, Java, Hadoop (familiar), Spark (familiar)

**Service:** Reviewer for CVPR, ICCV, ICLR, NeurIPS, TPAMI