

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, All**)

Aug 2020 – Present

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 – Dec 2025

- 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 (published at ICCV 2025, patent filed)

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 accepted + 1 under review)
- 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

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

Under review

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

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

ICCV 2025

Look Hear: Gaze Prediction for Speech-directed Human Attention

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

ECCV 2024

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

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

CVPR 2023

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

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

ACADEMIC & TECHNICAL DETAILS

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, ECCV, ICLR, NeurIPS, TPAMI