Sounak Mondal

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Education

Stony Brook University, Stony Brook, NY   **August, 2020 – Present**
Doctor of Philosophy, Computer Science   *GPA: 4.0/4.0*

Advised by *Minh Hoai Nguyen, Dimitris Samaras, Gregory Zelinsky*. I also collaborate with *Niranjan Balasubramanian*.

Jadavpur University, Kolkata, India   **August, 2013 – May, 2017**
Bachelor of Engineering, Computer Science & Engineering   *GPA(Absolute Grading): 8.65/10.00, Rank: 3/54*

Publications

1. **Where to Look: Gaze Prediction for Multimodal Visual Search**   *Under Review*
   Sounak Mondal, S. Ahn, Z. Yang, N. Balasubramanian, D. Samaras, G. Zelinsky, M. Hoai

2. **Predicting Human Attention using Computational Attention**   *Under Review*
   Z. Yang, **Sounak Mondal**, S. Ahn, R. Xue, G. Zelinsky, M. Hoai, D. Samaras

3. **Diffusion-Refined VQA Annotations for Semi-Supervised Gaze Following**   *Under Review*
   Q. Miao, A. Graikos, J. Zhang, **Sounak Mondal**, M. Hoai, D. Samaras

4. **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

5. **Target-absent Human Attention**   *ECCV 2022*
   Z. Yang, **Sounak Mondal**, S. Ahn, G. Zelinsky, M. Hoai, D. Samaras

6. **Characterizing Target-absent Human Attention**   *CVPR Workshop 2022*
   Y. Chen, Z. Yang, S. Chakraborty, **Sounak Mondal**, S. Ahn, D. Samaras, M. Hoai, G. Zelinsky

7. **ICAN: Introspective Convolutional Attention Network for Semantic Text Classification**   *ICSC 2020*
   Sounak Mondal, S. Modi, S. Garg, D. Das, S. Mukherjee

8. **Violent/Non-Violent Video Classification based on Deep Neural Network**   *ICAPR 2017*
   Sounak Mondal, S. Pal, S.K. Saha, B. Chanda

9. **A Beta Distribution Based Novel Scheme for Detection of Changes in Crowd Motion**   *ICVGIP(WS) 2016*
   S. Pal, **Sounak Mondal**, S.K. Saha, B. Chanda

Experience

Research Intern | UII America, Cambridge, MA   May, 2023 – August, 2023

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

Graduate Researcher | CV Lab, Stony Brook University, NY   November, 2020 – Present

- Generative Modeling of multimodal perception using Multimodal LLMs and diffusion models (ongoing)
- Human Attention (Eye Gaze) Prediction for multimodal (vision-language) tasks (CVPR'23, one paper under submission)
- Human Attention (Eye Gaze) Prediction for visual search (ECCV'22, CVPRW'22, one paper under submission)
- Human Gaze Estimation using VQA and diffusion models (one paper under submission)

NLP Engineer | Samsung Research Institute, Bangalore   June, 2017 – August, 2020

- Deep learning-based enhancements for Bixby digital assistant, such as (1) low resource Intent Classification via transfer learning, (2) Sequence Labeling for Named Entity Recognition and speech end-point detection
- Proposed a lightweight and fast text classfication architecture (ICSC'20)

Summer Intern | Samsung Research Institute, Bangalore   May, 2016 – July, 2016

Context awareness in SVoice platform for Natural Language Processing

Undergraduate Researcher | Indian Statistical Institute, Kolkata   July, 2015 – June, 2017

Video Action Recognition/Detection (ICAPR'17, ICVGIP Workshop'16) advised by *Sanjoy Kumar Saha, Bhabatosh Chanda*

Academic & Technical Details

Research Experience: Computer Vision, Deep Learning, Multimodal Learning, Natural Language Processing
Graduate Courses: Computer Vision, Natural Language Processing, Robotics, Machine Learning, Database Systems
Languages & Frameworks: Python, C++, C, Java, LaTeX, PyTorch, TensorFlow, Hugging Face, OpenCV, NLTK, spaCy, Hadoop (familiar), Spark (familiar)