

# Sanjoy Kundu

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[Personal Webpage](#)

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## Profile Summary

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About 3 years Research experience on computer vision and deep learning

Areas of interests are but not limited to scene graph generation, visual question answering, video understanding, image and video captioning etc.

## Publications

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- ❖ [Accepted in **CVPR 2023**] **Sanjoy Kundu**, Sathyanarayanan N. Aakur. "Iterative Scene Graph Generation with Generative Transformers." *arXiv preprint arXiv:2211.16636* (2022).
- ❖ Sathyanarayanan N. Aakur, **Sanjoy Kundu**, Nikhil Gunti, "Knowledge guided learning: Open world egocentric action recognition with zero supervision", Pattern Recognition Letters 156, 38-45
- ❖ **Sanjoy Kundu\***, Nikhil Gunti\*, Bailey Hendrickson\*, Sunil More, Sathyanarayanan Aakur, "Benchmark and Evaluation of Low Resource Object Detection in Biomedical Images", IEEE Workshop on Applied Imagery and Pattern Recognition, 2020
- ❖ Anik Mallik and **Sanjoy Kundu**, "Design of a Novel Dual-Band Microstrip Patch Antenna Operating at 2.45 GHz and 2.84 GHz with Practical Implementation," in Proc. IEEE ICCIT, 2014
- ❖ Anik Mallik, **Sanjoy Kundu**, and Md. Osman Goni, "Gain and SAR improvement of a conventional patch antenna using a novel Pi-shaped DNG metamaterial," in Proc. IEEE EICT, 2014
- ❖ Anik Mallik, **Sanjoy Kundu**, and Md. Osman Goni, "Design of a Novel Two-Rectangular UShaped Double Negative Metamaterial," in Proc. IEEE ICIEV, 2013
- ❖ Anik Mallik, **Sanjoy Kundu**, and Md. Ashikur Rahman, "An FPGA-Based Semi-Automated Traffic Control System Using Verilog HDL," in Proc. ICECTE, 2012.

## Education

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PhD in Computer Science (CS)  
Oklahoma State University, Oklahoma, USA

January, 2020-Present

Bachelor of Science in Electronics and Communication Engineering (ECE)  
Khulna University of Engineering & Technology (KUET)

September 2013

## Research Experience

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*Recent Research:*

- ❖ Iterative Scene Graph Generation using Generative Transformer *Accepted in CVPR, 2023*  
**Areas Explored:** Scene graph generation on visual genome dataset using GGT. Sampling the number of edges to reduce the computational overhead for scene graph generation task
- ❖ Open World Action recognition and object detection using pattern theory *published in PRL, 2022*  
**Areas Explored:** open domain action recognition with zero supervision for ego-centric video using pattern theory and knowledge-graph
- ❖ Object detection on Biomedical images *published in AIPR, 2020*

**Areas Explored:** Object detection on out of domain images of canine tumor cells using Faster RCNN and YOLOv3, Challenges of object detection on biomedical images compared to Natural images.

*Under-Graduate Thesis:*

- ❖ Design of Metamaterial-based antenna and devices and analysis of their electromagnetic Properties *published in ICCIT, 2014, EICT, 2014, ICIEV, 2013*  
**Areas Explored:** Designing metamaterial structures with negative refractive index, metamaterial high gain antenna design and to reduce SAR with respect to conventional antennas.

## Technical Skills

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- ❖ ML/DL tools: Pytorch, Tensorflow, Keras Open-cv, Scikit-learn, Pandas, Numpy, SciPy, Matplotlib, NetworkX, etc.
- ❖ Programming Languages: Python(Advanced), C(Intermediate), Java(Intermediate), CSS(Intermediate)

## Voluntary Activities

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- ❖ Mentored one under-graduate student as part of the REU program *Summer 2022*
- ❖ Worked as a reviewer for CVPR 2022, ACM Multimedia 2021, RA-L, ICPR 2022, ICMLA 2023 etc.

## Awards

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- ❖ Received Graduate College Robberson Summer 2021 Research and Creative Activity [Grant](#)
- ❖ Obtained government and non-government scholarships for good academic performance.
- ❖ Divisional and Institutional awards for creative writing