

# AKSHITA GUPTA

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## RESEARCH INTEREST

- \* Vision Transformers, Generative Adversarial Networks, Low-(Few- and Zero-) Shot Classification & Detection

## RESEARCH EXPERIENCE

### Data Scientist, Bayanat for Mapping & Surveying

Supervisor: Dr Meng Wang, Dr Fan Zhu

Jan'22 - Now

- \* Working with the clients for delivering computer vision models based on object detection, segmentation, satellite imagery, autonomous driving.

### Research Engineer, Inception Institute of Artificial Intelligence

Supervisors: Dr Sanath Narayan, Dr Salman Khan, Dr Fahad Shahbaz Khan

Dec'18 - Jan'22

- \* Developing deep learning algorithms for low- (Few- and zero-) shot detection and classification, generative adversarial models and open-world object detection problems.
- \* Developed rock & seismic layer classification system.
  1. Worked with the 12<sup>th</sup> largest oil company ADNOC.
  2. Refined classification algorithm for the task of rock and texture classification.
  3. Maintained & deployed GUI Interface for the algorithm presenting real-time results.
- \* Worked on satellite-imagery object detection and object counting system.
  1. Lead and maintained the main deployment codes working along with satellite imagery team.
  2. Object detection: Improved object detector models like PANet and Mask-RCNN for their collected data.
  3. Object Counting: Implemented and combined different counting algorithms like LCFCN and LPNs.

### Research & Development Intern, Mozilla

Supervisor: Mrs. Emma Irwin

May'18 - Aug'18

- \* Developed open-source analytics dashboard, metrics to evaluate diversity & inclusion across diff. communities.

### Research Intern, IIT Roorkee

Supervisor: Dr R Balasubramanian

May'17 - Dec'18

- \* Worked on acoustic scene recognition & audio tagging system using channel & spatial attention modules.

## PUBLICATIONS

1. OW-DETR: Open-world Detection Transformer [[paper](#)]  
Akshita Gupta, Sanath Narayan, Joseph KJ, Salman Khan, Fahad Shahbaz Khan, Mubarak Shah  
Under Review in **major Computer Vision conference**
2. Discriminative Region-based Multi-Label Zero-Shot Learning [[paper](#), [code](#), [webpage](#)]  
Sanath Narayan\*, Akshita Gupta\*, Salman Khan, Fahad Shahbaz Khan, Ling Shao, Mubarak Shah  
**ICCV 2021**
3. Generative Multi-Label Zero-Shot Learning [[paper](#), [code](#), [webpage](#)]  
Akshita Gupta\*, Sanath Narayan\*, Salman Khan, Fahad Shahbaz Khan, Ling Shao, Joost van de Weijer  
Under Review in **TPAMI**
4. Latent Embedding Feedback and Discriminative Features for Zero-Shot Classification [[paper](#), [code](#), [webpage](#)]  
Sanath Narayan\*, Akshita Gupta\*, Fahad Shahbaz Khan, Cees G.M. Snoek, Ling Shao  
**ECCV 2020**
5. iSAID: A Large-scale Dataset for Instance Segmentation in Aerial Images [[paper](#), [webpage](#), [code](#)]  
Syed Waqas Zamir\*, Aditya Arora\*, Akshita Gupta, Salman Khan, Guolei Sun, Fahad Shahbaz Khan, Fan Zhu, Ling Shao, Gui-Song Xia, Xiang Bai  
**CVPR-W Oral 2019**
6. Acoustic features fusion using attentive multi-channel deep architecture [[paper](#), [ppt](#), [code](#)]  
Gaurav Bhatt, Akshita Gupta, Aditya Arora, Balasubramanian Raman  
**InterSpeech-W 2018**

(\* denotes equal contribution)

## EDUCATION

**DIT University, Dehradun**  
B.Tech. in Computer Science

Aug'14 - Dec'18

## PROFESSIONAL ACTIVITIES

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- \* **Conference Reviewing**  
CVPR 2022, ICCV 2021
- \* **Invited Talks and Panels**  
ComputerVision talks Dec'21 [Call](#), Mozilla Open-source community [Call](#)
- \* Undergraduate Teaching Assistant, TCS821: Cloud Computing

## ACHIEVEMENTS

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- \* Travel Scholarship for ALL-Hands Mozilla, San Francisco. (Awarded to top 1% candidates)
- \* [Outreachy](#) Scholarship recipient (2018- 2019). (Awarded to top 2% candidates)
- \* Selected for Bertelsmann Data Science Scholarship. (Awarded to top 1500 students)
- \* [Scored](#) among top 150 globally at Cognizant Mastercode Hackathon

## PROGRAMMING SKILLS

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- \* **Languages:** Python, C++, SQL, HTML, Javascript
- \* **Libraries:** Pytorch, Tensorflow, Keras
- \* **Frameworks:** Flask, Bootstrap
- \* **Software:** GIT, Docker, Latex