AKSHITA GUPTA

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RESEARCH INTEREST

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

RESEARCH EXPERIENCE

Research Engineer, Inception Institute of Artificial Intelligence
Supervisors: Dr Sanath Narayan, Dr Salman Khan, Dr Fahad Shahbaz Khan   *Dec'18 – Now*

* Developing deep learning algorithms for low- (Few- and zero-) shot detection and classification, generative adversarial models and open-world object detection problems.
* Developed rock & texture classification system.
    1. Worked with the 12'th 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
   Akshita Gupta*, Sanath Narayan*, Joseph KJ, Salman Khan, Fahad Shahbaz Khan, Mubarak Shah
   Under Review in **CVPR 2022**

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

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

ACHIEVEMENTS

* 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

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