

AKSHITA GUPTA

[akshitac8](#) | [akshita-gupta152](#) | [akshitac8.github.io](#) | [akshita.sem.iitr@gmail.com](#)

EDUCATION

Bachelor of Technology

Computer Science and Engineering; GPA: 7.83/10.0

DIT University, Dehradun

Aug. 2014 – Aug. 2018

Semester Exchange Student

Advisor: [Dr R Balasubramanian](#)

Indian Institute of Technology, Roorkee

Jan. 2018 – Aug. 2018

- **Bachelor Thesis: Attention based Visual QA**, Implemented a model for Visual Question Answering(VQA) which used stacked attention mechanism to produce a feature importance weighting vector on the VGG16 last Convolution layer features of the image using the question embedding as a query vector.
- Final model performed better than model which exercised single pass attention mechanism. We hypothesized that multiple steps of reasoning is required to answer questions about fine grained information in image.
- Implemented Faster-RCNN, YOLOv2 and applied it on INRIA person dataset.
- **CGPA: 9.00/10.00**

ACHIEVEMENTS

- Travel Scholarship for ALL-Hands Mozilla, San Francisco. (*Awarded to 12 students out of 2000*)
- Outreachy Travel Scholarship recipient (2018- 2019). (*Awarded to 40 students out of 2000*)
- Selected for Bertelsmann Data Science Scholarship. (*Awarded to only 1500 students*)
- Accepted for StartHack hackathon organized by University of St Gallens , Switzerland *out of 1000 candidates.*
- Scored *144 out of 5383* Rank Cognizant Mastercode Hackathon [[Leaderboard](#)]
- Invited Talk at Mozilla, Diversity and Inclusion in Open Source - Community Call. [[Youtube](#)]

PUBLICATIONS

Gaurav Bhatt¹, **Akshita Gupta**², Aditya Arora², and Balasubramanian Raman³ “Acoustic Features Fusion using Attentive Multi-channel Deep Architecture,” *Interspeech 2018 Workshop on Speech Processing in Everyday Environment(CHIME 2018)*

WORK EXPERIENCE

Research and Development Intern

Mentor: [Emma Irwin](#)

Mozilla

May. 2018 – Aug. 2018

- Developed an open source analytics dashboard prototype with the metrics to evaluate *Diversity and Inclusion*.
- Proposed and led *quantitative analysis* using self made demo gender dataset and performed **NLP(Sentiment Analysis and Topic Modeling)** for generating the visualization results.
- Delivered a pilot project to represent as a bridge between **MOZILLA** and **CHAOSS** open source organizations.
- Learned Kibana, Logstash and Elastic Search for data extraction and visualization during the internship. [[Github](#)]

Undergraduate Teaching Assistant

Instructor: [Mr Gaurav Bhatt](#)

Graphic Era University, Dehradun

Jan. 2018 – Apr. 2018

- TCS821: Intro to Cloud Computing
- Machine Learning algorithms were illustrated on cloud platforms like Heroku, Docker, and CloudFoundry. [[Github](#)]

Machine Learning Intern

Advisor: [Dr R Balasubramanian](#)

Indian Institute of Technology, Roorkee

May. 2017 – Jul. 2017

- Implemented AB-CNN architecture on multi-label audio classification with a few feature extraction techniques (Mel, CQT, Mfcc).
- Compared the performance with other attention based models and the proposed model achieves a decrease in the Equal Error Rate by 4% with the current acoustic scenes datasets.(Dcase, Rouen, chime2016). [[Technical Report](#)]

MAJOR PROJECTS

Audio-Vision

- Introduced an **open source library** with a few research papers code, well- documentation and genuine results.
- **Audio:** This Section includes paper dealing with specific task like audio classification and tagging. The frameworks include attention, recurrent encoder-decoder, CNN + LSTM, ensemble, and multi-feature.
- **Vision:** This Section includes paper tackling with Visual Question Answering problem including frameworks like deeper LSTM, stacked attention. [\[Github\]](#)

Handwriting Generation

- *Pytorch* Implementation of Conditional + Unconditional Handwriting generation with the help of *LSTM + Attention Mechanism* on sequence dataset. [\[Github\]](#)

Mixed Script Queries & Response

- Proposed a bi-gram and tri-gram recurrent neural network with *MAP & MRR* metrics to identify incorrectly written queries in mixed script (English, Hindi, Gujarati) samples. An increase of +2% in Mean Average Precision Score was recorded. [\[Technical Report\]](#)

Keras_aud

- **Audio library** build on top of Keras framework which includes build in architectures including **preprocessing data, feature extraction, and framing the feature maps.** [\[Github\]](#)

Career Services

- Student-placement coordinators interaction platform. A **website portal** for users to control, see and get updates of all placement activities from anywhere. [\[Webpage\]](#)
3000+ users; 300+ Company Notices; 900+ Student profiles

OPEN SOURCE CONTRIBUTIONS

- **Mozilla-Diversity**, Helping with the visualization (using Python, Matplotlib), Code of Conduct & Wiki page. [\[Github\]](#)
- **Taskcluster**, Added GitHub integration button and automatic form submit options. [\[Github\]](#)
- **Systems**, Made a few changes related to display. [\[Github\]](#)
- **VQA**, Updated question & image functions for image fine-tuning using **spacy glove vectors.** [\[Github\]](#)
- **DeepLearn-Lab**, Added acoustic scene classification and tagging code with authentic results. [\[Github\]](#)

PROGRAMMING SKILLS

- **Languages:** Python, C, C++, SQL
- **DevOps:** Docker, Heroku, FloydHub, AWS EC2
- **Frameworks:** Flask, OpenCV, CodeIgniter
- **Machine Learning Frameworks:** Keras, Pytorch, Theano, Tensorflow, NumPy, Scikit-Learn
- **Frontend:** HTML, CSS, JQuery, Bootstrap, Javascript, ReactJS