

# MEGH THAKKAR

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Megh-Thakkar

## EXPERIENCE

### Speech and Language Research Group, Nanyang Technological University

Visiting Researcher (Singapore, Singapore)

August 2019 – Present

- Working on emotion recognition from speech and text in a multi-party dialogue conversation environment.

### Language Technology Lab, Universität Hamburg

Research Intern (Hamburg, Germany)

May 2019 – August 2019

- Developed a hybrid, character + word level language model for query completion of unseen prefixes using contextualized embeddings such as BERT, Flair, ELMo as well as a combination of FastText and sent2vec.
- Used beam search for query generation and LambdaMART for re-ranking to improve suggestions.

### Google Summer of Code

Student Developer (Pilani, India – Australia)

May 2018 – August 2018

- Led the development of a new website for BioJS, a community-based project compiling JavaScript widgets and modular components to visualize and process biological data using web technologies.

### IIRS, Indian Space Research Organization

Summer Intern (Dehradun, India)

May 2018 – July 2018

- Developed an application to automatically generate the path for a UAV with innate shadow prevention using ray tracing.

## PROJECTS

### TOY COMPILER

- Created a mini compiler in C for a custom language with modules including lexer, parser, abstract tree synthesis, semantic analysis and assembly code generation.

### VISUAL QUESTION ANSWERING

- Implemented a model for the visual question answering challenge.
- The multimodal approach involved a combination of image features from VGG16 and question features from stacked LSTM layers.

### FEEDBACK BASED DOCUMENT RETRIEVAL SYSTEM

- Developed a document retrieval system using tf-idf and BM25 scores along with a trie data structure for search completion.
- Used user clicks as a feedback to improve suggestions.

### CONVOLUTIONAL NEURAL NETWORKS IN SCALA

- Created a two-layer deep CNN using purely the functional programming paradigm.

### SMART CAMPUS MOBILE WALLET

- Led the development of an on-campus mobile wallet to order food items across various canteens at the university.

## EDUCATION

### B.E. (Hons.) in Computer Science

Birla Institute of Technology and Science (BITS), Pilani (Pilani, Rajasthan)

2016 – Expected 2020

- CGPA : 9.1/10
- Among the top 10% students of the department

### AISSCE (CLASS XII)

The New Tulip International School

(Ahmedabad, Gujarat)

2016

- Secured 2nd position in the state with a score of 97.2%

## COURSES

- Neural Networks & Fuzzy Logic, Information Retrieval, Data Mining, Data Structures, Analysis of Algorithms, Object Oriented Programming, Database Systems, Operating Systems
- Linear Algebra, Differential Equations, Probability & Statistics

## ACHIEVEMENTS

- Working Internships in Science and Engineering scholarship by German Academic Exchange Service (DAAD) to conduct research in Germany – 2018
- mitacs Globalink scholarship to conduct research in Canada – 2018
- Institute Merit Scholarship on various occasions, given to the top 3% students across all the departments of the university – 2016-2018
- All India Rank 105 among over 1.2 million candidates in Joint Entrance Examination (Mains) – 2016

## LANGUAGES

Python, C, HTML

C++, Java, CSS

Scala, NASM



## LIBRARIES

- Keras, Pytorch, sklearn, gensim, nltk
- Django, DjangoREST, Flask
- nginx, gunicorn, Ansible