MEGH THAKKAR

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EXPERIENCE

Multimedia and Interactive Computing Lab, Nanyang Technological University

Visiting Researcher (Singapore, Singapore)
August 2019 – Present

- Working on improving diversity of **text generation models**, particularly **dialogue generation**.

Language Technology Lab, Universität Hamburg

Research Intern (Hamburg, Germany)
May 2019 – August 2019

- Developed a hybrid, **character + word level language model** for q**uery 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** and **tf-ranking** 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

TextVQA

- Currently working on a model that combines **extracted image and text features** with an **OCR** system to detect text from given image based on the question asked.

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 the **functional programming** constraints.

EDUCATION

B.E. in Computer Science

Birla Institute of Technology and Science (BITS), Pilani (Pilani, Rajasthan)
2016 – 2020

- CGPA : 9.2/10 (Graduated with Distinction)
- 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