

Sandeep Kumar

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Education

IIT (Indian Institute of Technology) Kanpur

Jul. 2015 - Jul. 2019 (exp)

B.S. IN MATHEMATICS AND SCIENTIFIC COMPUTING (8.64/10)

Experience

Learning Semantic Sentence Embeddings using Pair-wise Discriminator

CONFERENCE PAPER AT COLING 2018

- Proposed a novel method for obtaining sentence-level embeddings by solving the paraphrase generation task
- Introduced a sequential pair-wise discriminator to obtain semantic and relevant sentence embeddings
- Obtained state-of-the-art results on the task of paraphrase generation and sentiment analysis

Video Completion with Deep Learning

Dec 2017 - Present

RESEARCH INTERNSHIP AT NVIDIA GRAPHICS BANGALORE (*This work is under review*)

- Built a convolutional generative adversarial network for this task
- Used multiple discriminators to ensure the consistency of video
- Tested our model on standard datasets like YFCC100M and YouTube-8M

Deep Learning Techniques For Question Generation (Prof. Vinay P Namboodiri)

Jun 2017 - May 2018

UNDERGRADUATE RESEARCH, (*This work is under review*)

- Developed a Context model using different contexts such as Part of Speech-Tags, Places and Exemplar Images
- Designed a Encoder network with help of CNN based Image model and Context model
- Implemented a Decoder network with the help of LSTM based language model for natural question generation

Bayesian Techniques For Question Generation (Prof. Vinay P Namboodiri)

Jan 2018 - May 2018

UNDERGRADUATE RESEARCH, (*This work is under review*)

- Developed a bayesian architecture to procure embeddings for cues such as place, tag and caption
- Used a bayesian fusion module to obtain joint embeddings for different cues
- Proposed a bayesian moderator module to gauge the importance of different fused embeddings

Mitigating Annotation Costs in legal domain

Oct 2017 - Jan 2018

COURSE PROJECT (*This work is under review*)

- Designed a novel algorithm to annotate legal documents in an information retrieval setup
- Got rid of human effort at test time without significantly affecting the performance
- Used tf-idf and Doc2Vec representation of documents and queries

Honors & Awards

- 2015 Among top 5% in JEE Advanced 2015 and top 0.1% in JEE Mains 2015.
- 2015 Secured 96.4 % in Higher Secondary Examination
- 2014 Scholar Kishore Vaigyanik Protsahan Yojana (KVPY) Scholarship
- 2014 Merit Certificate Indian National Chemistry Olympiad
- 2012 Merit Certificate National Standard Examination in Junior Science (NSEJS)
- 2013 Secured 95 % in Secondary Examination
- 2011 Scholar National Talent Search Examination (NTSE) Scholarship
- 2011 1st Place International Olympiad of Science (IOS)

Relevant Courses

Machine learning Techniques
Applied Stochastic Processes

Data Structures & Algorithms
Probability & Statistics

Linear Algebra
Mathematical Modelling

Technical Skills

Languages: Python, C++, C, Lua, MATLAB, R **Tools :** \LaTeX , MELD, GIT **DL Platforms :** Torch, TensorFlow