

Ashim Gupta

CONTACT INFORMATION

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RESEARCH INTERESTS

Analysis and Explainability of NLP Models, Logic and Neural Networks, Machine Translation, Sanskrit Computational Linguistics, Low-resource Multi-lingual NLP

CURRENT POSITION

School of Computing, University of Utah

Graduate Research Assistant
Advisor: Prof. Vivek Srikumar

Aug 2019 - Present

EDUCATION

School of Computing, University of Utah

PhD, Computer Science (CGPA: 3.97/4)
Advisor: Prof. Vivek Srikumar

Aug 2019 - Present

Indian Institute of Technology - BHU

B.Tech, Electrical Engineering (CGPA: 8.27/10)

Jul 2012 - May 2016

RESEARCH EXPERIENCE

Computer Science Department, IIT - Kharagpur

Project Officer, NLP Researcher

Advisors : Prof. Sudeshna Sarkar, Prof. Pawan Goyal

Jun 2017 - Mar 2019

ENGINEERING EXPERIENCE

Proptiger.com, Gurgaon, India

Software Engineer (Grade 3)

Aug 2016 - Apr 2017

PUBLICATIONS

Gupta A., Kvernadze G., Srikumar V., *BERT & Family Eat Word Salad: Experiments with Text Understanding*, Under Submission at AAAI 2021 (Formerly accepted at EMNLP Findings)

Krishna A., **Gupta A.**, Goyal P., Santra B., Satuluri P., *A Graph Based Framework for Structured Prediction Tasks in Sanskrit*, ACL - Computational Linguistics Journal (Accepted for December 2020 Issue) [[Paper](#)]

Krishna A., **Gupta A.**, Garasangi D., Satuluri P., Goyal P., *Keep It Surprisingly Simple: A Simple First Order Graph Based Parsing Model for Joint Morphosyntactic Parsing in Sanskrit*, EMNLP 2020 [[Paper](#)]

Gupta A., Krishna A., Goyal P., Hellwig O., *Evaluating Neural Morphological Taggers for Sanskrit*, SIGMORPHON - ACL 2020 [[Paper](#)]

Krishna A., **Gupta A.**, Garasangi D., Sandhan J., Satuluri P., Goyal P., *Neural Approaches for Data Driven Dependency Parsing in Sanskrit*, Technical Report [[Preprint](#)]

Gupta A., Goyal P., Sarkar S., *Fully Contextualized Biomedical Named Entity Recognition*. 41st European Conference on Information Retrieval(ECIR), 2019 [[Paper](#)]

Pramanick M, **Gupta A.**, Mitra P. *An LSTM-CRF Based Approach to Token-Level Metaphor Detection*. FigLang Workshop at NAACL, 2018 [[Paper](#)]

Singh VP., **Gupta A.**, Singh S., Srivastava R. *An Efficient Content Based Image Retrieval System for Normal and Abnormal Mammograms*. IEEE UPCON'15, IIIT Allahabad [[Paper](#)]

SELECTED PAST PROJECTS	<p>Machine Translation for low-resource Indian languages (IIT Kgp): An unsupervised Phrase-based machine translation system with initial phrase table induction using a bilingual lexicon and iterative back-translation. Exploiting the use of an NMT initialized with synthetic data from PB-SMT. BLEU Score of 7.0. (FairSeq, PyTorch, Moses MT)</p> <p>Multi-Task learning for Sanskrit morphological tagging and lemma prediction (IIT Kgp): A deep multi-task architecture for tagging different morphological categories and lemma prediction for a free word order language like Sanskrit. Our method yields state-of-the-art results among all the neural models. (PyTorch)</p> <p>Medical Scientific Text Classification using Hierarchical Neural Networks (IIT Kgp, 2018): A Hierarchical Bi-directional LSTM based system with attention for classification of PubMed abstracts along with a modification of CRF to incorporate sequence tagging information. Results superior to state-of-the-art method by 0.4 % on RCT 20k, 200k datasets (Tensorflow)</p> <p>Multi-Sensor Data Fusion Using Kalman Filter (IIT BHU, 2015-2016): A robust Kalman Filter algorithm to fuse data from a low-cost IMU with GPS in order to reduce the error in estimation of object position. (MATLAB)</p>
ACHIEVEMENTS AND AWARDS	<ul style="list-style-type: none"> • Cleared the highly prestigious IIT-JEE (2012), and was placed among the top 0.5% from about half a million students • Offered a SHE scholarship under Innovation in Science Pursuit for Inspired Research. • District and School topper in class 12th Board examination conducted by CBSE. • Online Courses : Machine Learning by Stanford University, Introduction to Computer Vision by Georgia Tech., Introduction to Natural Language Processing by Stanford University.
VOLUNTEER TEACHING EXPERIENCE	<p>Vindhya Gyan Public School, Mirzapur (near Varanasi) Jul 2014 - May 2016</p> <ul style="list-style-type: none"> • Taught English and mentored students with non-English background from grade 6 to grade 12 on Saturdays, taught programming to students from grade 10 to grade 12. • Organized various group and team-building activities on Sundays.
SKILL SET	<ul style="list-style-type: none"> • Programming Languages: Python (PyTorch, Tensorflow, FairSeq); Java; C++; MATLAB • Technologies and Platforms: Linux, Git, MySql, Maven, Spring; Apache Solr, Redshift, L^AT_EX