PRAKHAR GUPTA

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Carnegie Mellon University, Pittsburgh 15213
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RESEARCH INTERESTS

My research interests lie in natural language processing and machine learning in general, and specifically in problems related to deep generative models for natural language and dialog systems. I have also worked on problems related to vision and online learning.

EDUCATION AND EXPERIENCE

M.S., Language Technologies Institute — August 2018 - Present
Graduate Research Assistant
Carnegie Mellon University, PA, USA
GPA: 4.04

Research Associate 2 — July 2015 - August 2018
BigData Experience Lab, Adobe Systems, India

M.Tech. and B.Tech. (Dual Degree) in CS — July 2010 - June 2015
Indian Institute of Technology, Roorkee, India
GPA: 8.95/10, Distinction awarded

PUBLICATIONS

1. **Prakhar Gupta**, Vinayshekhar Bannihatti Kumar, Mukul Bhutani, and Alan W Black. *Writerforcing:Generating more interesting story endings.* In Proceedings of the Second Workshop on Storytelling. Association for Computational Linguistics, 2019.

2. **Prakhar Gupta**, Shikib Mehri, Tiancheng Zhao, Amy Pavel, Maxine Eskenazi and Jeffrey Bigham, *Investigating Evaluation of Open-Domain Dialogue Systems With Human Generated Multiple References*, SIGDIAL 2019

3. **Prakhar Gupta**, Gaurush Hiranandani, Harvineet Singh, Branislav Kveton, Zheng Wen, Iftikhar Ahamath Burhanuddin *Cascade Linear Submodular Bandits: Accounting for Position Bias and Diversity in Online Learning to Rank*, in Proceedings of the 35th Annual Conference on Uncertainty in Artificial Intelligence (UAI 2019)

4. **Prakhar Gupta**, Shubh Gupta, Ajaykrishnan Jayagopal, Sourav Pal, Ritwik Sinha, *Saliency Prediction for Mobile User Interfaces*, In 2018 IEEE Winter Conference on Applications of Computer Vision (WACV 2018)

5. Kokil Jaidka, Kaushik Ramachandran, **Prakhar Gupta**, and Sajal Rustagi. *SocialStories: Segmenting Stories within Trending Twitter Topics*, In Proceedings of the 3rd IKDD Conference on Data Science, 2016

6. **Prakhar Gupta**, Sandeep Kumar, Kokil Jaidka. *Summarizing Customer Reviews through Aspects and Contexts*, in International Conference on Intelligent Text Processing and Computational Linguistics, (CICLing 2015)

TEACHING AND RESPONSIBILITIES

Internship Mentor
Mentored multiple students at Adobe Research over their summers research internships.

Tutoring
Facilitated hour-long interactive tutorials with group of 30 students for Data Structures (CS-102) course.

Coordinator of Mobile Application Development group
Coordinator of Mobile Application Development group at IIT Roorkee. Co-led the team of application developers for Thomso 2013 application creation. Organized mobile application development competition at Ifest 2013.

SELECTED RESEARCH PROJECTS

ORGANISATION May-July 2018	CARNEGIE MELLON UNIVERSITY Investigating Evaluation of Open-Domain Dialogue Systems With Human Generated Multiple References Address the problem of automatic evaluation of open-domain dialog systems due to one-to-many response problem through multireference evaluation. Our experiments show that the use of multiple references results in improved correlation between several automatic metrics and human judgement for both the quality and the diversity of system output.
ORGANISATION May-July 2018	BIGDATA EXPERIENCE LAB, ADOBE, INDIA Query Reformulation Using Session Context and Image Captions Modelled query reformulation and recommendation experience for a commercial image search engine with sequence-to-sequence translation models that capture session context, and a multitask architecture that simultaneously optimizes the ranking of results. The model uses captions of clicked images as the target for supervision. Work in submission to a conference.
2015-2018	Intelligent Alerts and Automation This technology was designed for providing personalized insights and alerts for marketers who use the Adobe Analytics product. The technology informed them about changes in data, which are relevant and tailored to their needs. Implemented various components of the system including- 1.User profiling and interaction module - Formulated the problem of learning user preferences as a generalized linear bandit and learning is done at a near-optimal rate by sound algorithms. 2. Message construction and summarization- Creation of natural language summaries of data.
ORGANISATION 2014-2015	INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE, INDIA Aspect Detection and Grouping for Opinion Mining Completed dissertation on the above topic. The work involved leveraging the syntactic, semantic and contextual features of online reviews to extract aspects and summarize them into meaningful feature groups. Part of the dissertation work was published in CICLing conference.

TECHNICAL SKILLS

- Python (including scikit-learn, Pandas, numpy, etc.), Java, C++, node.js, Javascript, React
- Experience with frameworks- Pytorch, Tensorfow, Keras, Hadoop, MapReduce, etc.
- Courses - Deep Learning, Machine Learning, Algorithms for NLP, Neural Networks for NLP
- Data mining, cleaning, and imputing, statistical data modeling, quick prototype development

RELEVANT COURSES

Deep Learning
Algorithms for NLP
Artificial Intelligence
Data Mining and Warehousing
Machine Learning
Neural Networks for NLP
Design and Analysis of Algorithms
Object Oriented System Design

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Internship Mentor - Mentored multiple students at Adobe Research over their summers research internships. Tutoring - Facilitated hour-long interactive tutorials with group of 30 students for Data Structures course. Coordinator of Mobile Application Development group at IIT Roorkee.