

# PRAKHAR GUPTA

Carnegie Mellon University, Pittsburgh 15213  
412-773-5764 ♦ prakharguptage@gmail.com ♦ <https://prakharguptaz.github.io/>

## PERSONAL SUMMARY

---

3+ years of industrial research experience spanning multiple research areas, 4 US issued patents and multiple publications in peer-reviewed conferences. Primary interests in problems related to natural language understanding, generation and dialog systems. Skilled in machine learning, statistics, problem solving, and programming. Passionate about applying ML techniques to solve real world problems.

## EDUCATION

---

CARNEGIE MELLON UNIVERSITY, PA, USA August 2018 - Present

- PhD and MS, Language Technologies Institute
- GPA: 4.05
- Courses - Deep Learning, Machine Learning, Algorithms for NLP, Reinforcement Learning

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE, INDIA July 2010 - June 2015

- B.Tech. and M.Tech. (Dual Degree) in CS
- GPA: 8.95/10, Distinction awarded
- Courses - Design and Analysis of Algorithms, Data Mining, Artificial Intelligence

## EXPERIENCE

---

RESEARCH ASSISTANT, Carnegie Mellon University August 2018 - Present

- Designed and deployed a dialog system for a Darpa project named Active Social Engineering Defense. System orchestrates strategies based on rules, generative and retrieval mechanisms to waste scammers' time and resources.
- Sole graduate student responsible for all aspects including research, development, testing, deployment and analysis.

RESEARCH ASSOCIATE 2, Adobe Research India July 2015 - August 2018

- Developed user profiling, time series prediction and data summary generation components of a system which providing personalized insights and alerts for marketers.
- Developed a query reformulation system for a commercial image search engine with Seq2Seq models that captures session context, and a multitask architecture that simultaneously optimizes the ranking of results.
- Implemented a system for identifying fine-grained story clusters within a broader trending topic on Twitter.

## TECHNICAL SKILLS

---

- Python (including scikit-learn, Pandas, numpy, etc.), Java, node.js, Javascript, React
- Experience with frameworks like Pytorch, Tensorflow, Keras, Hadoop, MapReduce and computing clusters.
- Data mining, cleaning, and imputing, statistical data modeling, quick prototype development

## SELECTED PUBLICATIONS

---

- Gaurav Verma, Vishwa Vinay, Sahil Bansal, Shashank Oberoi, and Makunda Sharma, **Prakhar Gupta**, *Using Image Captions and Multitask Learning for Recommending Query Reformulations*, ECIR, 2020
- **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, ACL, 2019
- **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
- **Prakhar Gupta**, Gaurush Hiranandani, Harvineet Singh, Branislav Kveton, Zheng Wen, Iftikhar Burhanuddin *Cascade Linear Submodular Bandits: Accounting for Position Bias and Diversity in Online Learning to Rank*, UAI 2019
- **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
- **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

4 US Issued patents - information on website

## 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 course.

COORDINATOR - Mobile Application Development group at Indian Institute of Technology Roorkee, India.