Prakhar Gupta

INFO

JOB & POSITION:	Member of Technical Staff 2 at Big Data Experience Lab, Adobe, India.
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EDUCATION AND EXPERIENCE

JULY 2015 - CURRENT	Member of Technical Staff 2 at BigData Experience Lab, Bangalore Adobe Systems, India
JULY 2010 - JUNE 2015	Dual Degree (Masters and Bachelors of Technology) in COMPUTER SCIENCE Indian Institute of Technology, Roorkee, India GPA: 8.95/10, Rank 4 out of 28, Distinction awarded
MAY 2014 - JULY 2014	Research Intern at BigData Experience Lab, Bangalore Adobe Systems, India
MAY 2013 - JULY 2013	Research Intern at BigData Experience Lab, Bangalore Adobe Systems, India

RESEARCH PUBLICATIONS AND PATENTS

PUBLISHED AND ACCEPTED PAPERS:

1. Prakhar Gupta, Sandeep Kumar, and Kokil Jaidka. **"Summarizing Customer Reviews through Aspects and Contexts"** Accepted as a regular paper in *International Conference on Intelligent Text Processing and Computational Linguistics (CICLing), pp. 241-256. Springer International Publishing, 2015.*

2. 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, p. 1. ACM, 2016.*
 * equal contribution from all authors

3. Prakhar Gupta, Shubh Gupta, Ajaykrishnan Gopalan, Sourav Pal, and Ritwik Sinha. **"Saliency Prediction for Mobile User Interfaces"** *(to appear) In Winter Conference on Applications of Computer Vision (WACV), 2018*

SUBMITTED / WORKING PAPERS:

1. Prakhar Gupta, Gaurush Hiranandani, Harvineet Singh, Iftikhar Ahamath Burhanuddin, Branislav Kveton, and Zheng Wen **"Online Diverse Recommendations from Partial Click Feedback"** Submitted to *ECML PKDD Journal Track*, 2018.

PATENTS:

1. Sanjeev Biswas, Prakhar Gupta, Shweta Chahar, and Vaibhav Khandelwal **Method and apparatus for generating ordered user expert lists for a shared digital document**, 2013 (Granted)

2. Kokil Jaidka, Prakhar Gupta, Sajal Rustagi, and R. Kaushik **Tracking changes in user-generated textual content on social media computing platforms**, 2014 (Granted)

3. Prakhar Gupta, Kokil Jaidka, Sajal Rustagi, and R. Kaushik **Segmenting topical discussion themes from user-generated posts**, 2015 (Filed)

4. Prakhar Gupta, Kokil Jaidka, Iftikhar Burhanuddin, and Harvineet Singh **A method for generating natural language descriptions to explain data changes and relationships in alert messages**, 2016 (Filed)

5. Prakhar Gupta, Aayush Ojha, Debraj Basu, and Nalam V S S Chaitanya. **Technique for semantic characterization of automatically detected multimedia trends**, 2016 (Filed)

6. Prakhar Gupta, Shiv Saini, Gaurush Hiranandani, and Harvineet Singh. **End of Period Metric Projection with Intra Period Alerts.**, 2017 (Filed)

7. Prakhar Gupta, Iftikhar Ahamath Burhanuddin, Harvineet Singh, and Atanu Sinha **Conversational Agent for Analytics to Increase Product Knowledge and to Guide Analysis Workflows**, 2017 (Filed)

8. Prakhar Gupta, Shubh Gupta, Ajaykrishnan Gopalan, Sourav Pal, and Ritwik Sinha **Saliency prediction for informational documents**, 2017 (Filed)

SELECTED RESEARCH PROJECTS

ORGANISATION	*Big Data Experience Labs*, Adobe, India
Sep 2017- Present	SALIENCY PREDICTION FOR MOBILE USER INTERFACES We introduce models for saliency prediction for mobile user interfaces. A mobile UI may include elements like buttons, text, etc. and its design involves operating on such elements. We collected eye-gaze data for free viewing task on mobile devices and developed a novel autoencoder based multi-scale deep learning model. Our approach performs significantly better on a range of established metrics compared to approaches developed for natural images. Paper accepted at WACV'18. COLLABORATORS Mentored a group of 3 interns with **Dr. Ritwik Sinha**
July 2015- Present	ONLINE DIVERSE RECOMMENDATIONS FROM PARTIAL CLICK FEEDBACK We propose a first practical computationally efficient online learning algorithm for ranking diverse items from partial user feedback, i.e. situation where user clicks on the first attractive item, and then leaves without examining the remaining items. We analyze the algorithm and prove a gap-free upper bound on its n-step regret. We evaluate our algorithm CascadeLSB on both synthetic and real-world datasets, compare it to various baselines, and show that it learns to rank even when our modeling assumptions do not exactly hold. COLLABORATORS **Dr. Branislav Kveton**, **Dr. Iftikhar Burhanuddin** and **Dr. Kokil Jaidka**.
Sep 2016- Present	VIRTUAL ASSISTANT FOR ADOBE ANALYTICS The technology enables an analyst to perform analysis with enterprise data through multiple modes of interactions like speech, text and graphical interface. The assistant learns domain knowledge, dialog policies and user preferences through the interactions. Developed a semi-supervised model for intent detection and slot-filing in conversations. COLLABORATORS **Dr. Iftikhar Ahamath Burhanuddin** and **Dr. Atanu Sinha**.
May-July 2016	SEMANTIC CHARACTERIZATION OF AUTOMATICALLY DETECTED MULTIMEDIA TRENDS The project addresses the problem of *automatically detecting creative trends* and *characterizing* them in order to make them easily comprehensible. The detection phase involves creation of usage, social and content related features, using which, a temporal graph of image tags is generated and further clustered to generate trend definitions. COLLABORATORS Mentored a group of 3 interns for the project. A patent was filed.
May-July 2014	TOPIC AND EVENT DETECTION IN SOCIAL MEDIA Developed a system for *identifying fine-grained stories within a broader trending topic* on Twitter. The contributions include a novel tf-metric, called the inverse cluster frequency, and a decay weighting for entities. Achieved improved performance against the baselines and other compared works with a high recall values. Two patents were filed for the project. COLLABORATORS Work came out of my internship at Adobe. Mentored by **Dr. Kokil Jaidka**.
ORGANISATION	*Indian Institute of Technology, Roorkee*, India
2014-2015	ASPECT DETECTION AND GROUPING FOR OPINION MINING Under the guidance of Prof. Sandeep Kumar, completed dissertation on the topic *"An Approach to Aspect Detection and Grouping for Opinion Mining"*. The work involved leveraging the syntactic, semantic and contextual features of online hotel and restaurant reviews to extract information aspects, and summarize them into meaningful feature groups using semantic similarity methods-distributional similarity, co-occurrence and knowledge base based similarity. Part of the dissertation work was published in CICLING, 2015 conference. COLLABORATORS **Dr. Sandeep Kumar** and **Dr. Kokil Jaidka**

Teaching and Responsibilities

Internship Mentor
Mentored a group of three students at Adobe over the summer of 2016 on a research project.

Tutoring
Facilitated hour-long interactive tutorials with group of 30 students for Data Structures (CS-102) course, 2015.

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

Coordinator Thomso
Coordinator of campus cultural fest Thomso 2013.

Skills

Computer Languages
Java, Python (including scikit-learn, Pandas, numpy, etc.), R, C++, node.js, HTML, JSP, Javascript, SQL mongodb

Languages
Hindi, English, Sanskrit and Urdu.

Relevant Courses

Design and Analysis of Algorithms	Object Oriented System Design
Graph Theory	Data Mining and Warehousing
Artificial Intelligence	Advanced Operating Systems
Advanced Database Management Systems	Advanced Computer Architecture
Linguistics	Data Structures
Machine Learning (Coursera)	Neural Networks for Machine Learning (Coursera)

Extracurriculars

Mobile application development
Co-founed the group and worked as an application developer for multiple android apps.

National Service Scheme
Participated in development of NSS website and participated and organized various on-campus NSS drives.

Finalist at code.fun.do
Participated and reached national finals of Microsoft's code.fun.do challenge in 2014.

References

Sandeep Kumar Garg	**Kokil Jaidka**	**Branislav Kveton**	**Iftikhar Burhanuddin**
Assistant Professor	Postdoctoral Researcher	Sr. Research Scientist	Computer Scientist
Department of Computer Science and Engineering	Positive Psychology Centre	Big Data Experience Lab	Big Data Experience Lab
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