

Resume

Name: Raksha Sharma

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Education Qualification

Ph.D. from **Indian Institute of Technology Bombay** in the area of **Natural Language Processing (NLP) and Machine Learning** with **8.14 CGPA**, under the guidance of Prof. Pushpak Bhattacharyya (from January 2012 till November 2017).

M.Tech. from **Indian Institute of Information Technology and Management, Gwalior** in 2009.

B.Tech. from **Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal** in 2006.

Current Position

Assistant Professor in the Computer Science Department of Indian Institute of Technology (IIT), Roorkee, India, from January 2019 till date.

Areas of Research

Natural Language Processing, Machine Learning, Computer Vision, Artificial Intelligence

Experience

- **Research scientist** at **Tata Research Design and Development Center (TRDDC), India** from October 2017 till December 2018. Here I worked on information extraction in the biomedical domain.

- **Lecturer** in the Department of Computer Science & Engineering at **Jaypee University (Deemed University)**, Guna, M.P. from 6th July 2009 till 6th January 2012. **(2 Years and 6 Months)**

- **Intern** at **Xerox Research Center of India (XRCI)** from June 2015 till December 2015 **(7 Months)**.

- **Adjunct faculty** for Machine Learning at Aegis School of Business, Data Science, Cyber Security & Telecommunication from September 2017.

- **Guest faculty** in **CloudXLab** for Deep Learning and Artificial Intelligence from August 2020 till date.

Research Projects at IITR

- a. Information Extraction in Biomedical Domain
- b. Hate Speech Detection on Social Media
- c. Caption generation for Remote Sensing Images
- d. PV power prediction using ML
- e. NLP for Programming
- f. Summarization in News Domain

Teaching Assignments at IITR

- a. Machine Learning
- b. Artificial Intelligence
- c. Natural Language Processing
- d. Compiler Design

Academic Memberships

Reviewers/Program Committee member for AAAI2021, ECML-PKDD 2020, ACL 2020, EMNLP 2020, NAACL 2019, EMNLP 2017, ECNLP 2019, ECNLP 2020, ICON 2017, ICON 2015

Research Collaborations (in India and abroad)

1. Prof. Hagit Shatkay, Professor Dept. of Computer and Information Sciences College of Engineering & Center for Bioinformatics and Computational Biology, University of Delaware. (Submitted a GIAN proposal together)
2. Prof. Ilija Batas Bjelic, Institute of Technical Sciences of SASA, Serbia
3. Prof. Adway Mitra, CSE, IIT Kharagpur
4. Prof. Rhythm Singh, Hydrology, IIT Roorkee
5. Prof. Pravindra Kumar, Biotechnology, IIT Roorkee
6. Prof. Rajesh Sharma, University of Tartu, Estonia

Doctoral (Ph.D.) thesis in progress at IITR

Sl. No.	Name of the student	Month & Year of admission	Area/ Title of the thesis	Supervision (Singly/ Jointly)
1	Swadhin Das	July 2020	Image Captioning	Singly
2	Prabhjot Singh	January 2021	Hate Speech Detection	Singly
4	Suman Narayan	July 2021	NLP for Programing Language	Singly
5	Akshay Singh	January 2021	ML for IoT	Jointly with Prof. Rahul

Sponsored Research projects submitted/approved/completed

Sr. No.	Title of the project	Your role (sole PI/PI/Co-PI)	Funding agency and duration	Total outlay (in Rs.)	Status
1	Information Extraction in Biomedical Domain	PI	IIT Roorkee	18.5Lakhs	Approved
2	Machine Learning for Renewable Energy (with Prof. Rhythm Singh, Hydro and Renewable Energy Department, IITR)	PI	Gov. of India (Technology Innovation Hub)	79 Lakhs	Approved
3	Machine-learning based PV power forecast and grid support solutions for PV integration in diverse climatic zones across Serbia and India	Co-PI	India-Serbia Gov.	25Lakhs	Submitted

Consultancy projects submitted/approved/completed

Sr. No.	Title of the project	Your role (sole PI/PI/Co-PI)	Funding agency and duration	Total outlay (in Rs)
2	PG Certification Program on Data Science with CloudXLab (ongoing)	Course Coordinator and Instructor	12 Months	Approx 1 Crore
3	PG Certification Program on Deep Learning with CloudXLab (ongoing)	Course Coordinator and Instructor	12 Months	Approx 1 Crore
4	PG Certification Program on MLOps with CloudXLab (ongoing)	Course Coordinator and Instructor	12 Months	Approx 1 Crore

5	Advanced Certification Program on Machine Learning and Data Science with CloudXLab (ongoing)	Course Coordinator and Instructor	12 Months	Approx 98 Lacs
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Research Publications in Refereed Journals/Conferences

1. **Sharma, Raksha**, and Pushpak Bhattacharyya. "Detecting Domain Dedicated Polar Words." *Proceedings of the Sixth International Joint Conference on Natural Language Processing*, pp. 661-666. 2013. **(CORE Ranking: B)**
2. **Sharma, Raksha**, and Pushpak Bhattacharyya. "A sentiment analyzer for hindi using hindi senti lexicon." In *Proceedings of the 11th International Conference on Natural Language Processing*, pp. 150-155. 2014.
3. **Sharma, Raksha**, Mohit Gupta, Astha Agarwal, and Pushpak Bhattacharyya. "Adjective intensity and sentiment analysis." In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing*, pp. 2520-2526. 2015. **(CORE Ranking: A)**
4. **Sharma, Raksha**, and Pushpak Bhattacharyya. "Domain sentiment matters: A two stage sentiment analyzer." In *Proceedings of the 12th International Conference on Natural Language Processing*, pp. 130-137. 2015.
5. **Sharma, Raksha**, and Pushpak Bhattacharyya. "High, Medium or Low? Detecting Intensity Variation Among polar Synonyms in WordNet." In *Global WordNet Conference*, p. 384. 2016. **(CORE Ranking: C)**
6. **Sharma, Raksha**, Sudha Bhingardive, and Pushpak Bhattacharyya. "Meaning Matters: Senses of Words are More Informative than Words for Cross-domain Sentiment Analysis." In *Proceedings of the 13th International Conference on Natural Language Processing*, pp. 115-119. 2016.
7. **Sharma, Raksha**, Arpan Somani, Lakshya Kumar, and Pushpak Bhattacharyya. "Sentiment intensity ranking among adjectives using sentiment bearing word embeddings." In *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing*, pp. 547-552. 2017. **(CORE Ranking: A)**
8. **Sharma, Raksha**, Dibyendu Mondal, and Pushpak Bhattacharyya. "A Comparison Among Significance Tests and Other Feature Building Methods for Sentiment Analysis: A First Study." In *International Conference on Computational Linguistics and Intelligent Text Processing*, pp. 3-19. Springer, Cham, 2017. **(CORE Ranking: B)**
9. **Sharma, Raksha**, Pushpak Bhattacharyya, Sandipan Dandapat, and Himanshu Sharad Bhatt. "Identifying transferable information across domains for cross-domain sentiment classification." In *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 968-978. 2018. **(CORE Ranking: A*)**
10. **Sharma, Raksha**, Girish Palshikar, and Sachin Pawar. "An Unsupervised Approach for Cause-Effect Relation Extraction from Biomedical Text." In *International Conference on Applications of Natural Language to Information Systems*, pp. 419-427. Springer, Cham, 2018. **(CORE Ranking: C)**
11. S Sangawan, **R Sharma**, G K Palshikar, Cold is a Disease and D-cold is a Drug: Identifying Biological Types of Entities in the Biomedical Domain. In *International Conference on Computational Linguistics and Intelligent Text Processing*, pp. 3-19. Springer, Cham, 2019. **(CORE Ranking: B)**
12. A Chakraborty, **R Sharma**, See Deeper: Identifying Crystal Structure from X-ray Diffraction patterns. In International Conference on CyberWorlds 2020. **(CORE Ranking: B)**
13. **R Sharma**, P Bhattacharyya, Welcome vs. Heartily Welcome : A Technique to Generate Sentiment Intensity Annotated Dataset. (Under Evaluation)
14. **R Sharma**, GK Palshikar, Virus Causes Flu: Identifying Causality in the Biomedical Domain using Target-specific Semantic Embeddings. (Under Evaluation)
15. D Goel, **R Sharma**, Leveraging Dependency Grammar for Fine-Grained Offensive Language Detection using Graph Convolutional Networks. (Under Evaluation)
16. V Kaushik, **R Sharma**, Leveraging Integration of BERT with Separable-CNN for Extractive Summarization. (Under Evaluation)

17. Pawar, Sachin, **Raksha Sharma**, Girish Keshav Palshikar, Pushpak Bhattacharyya, and Vasudeva Varma. "Cause–Effect Relation Extraction from Documents in Metallurgy and Materials Science." *Transactions of the Indian Institute of Metals* 72, no. 8 (2019): 2209-2217.
18. Chakraborty, Abhik, and **Raksha Sharma***. "See Deeper: Identifying Crystal Structure from X-ray Diffraction Patterns." In *2020 International Conference on Cyberworlds (CW)*, pp. **49-54**. IEEE, **2020**. (CORE Ranking: B)
19. **Sharma, Raksha***, and Girish Palshikar. "Virus Causes Flu: Identifying Causality in the Biomedical Domain Using an Ensemble Approach with Target-Specific Semantic Embeddings." In *International Conference on Applications of Natural Language to Information Systems*, pp. **93-104**. Springer, Cham, **2021**. (ERA Ranking: B)
20. Mondal, Anik, and **Raksha Sharma***. "Team_KGP at SemEval-2021 Task 7: A Deep Neural System to Detect Humor and Offense with Their Ratings in the Text Data." In *Proceedings of the 15th International Workshop on Semantic Evaluation (SemEval-2021)*, pp. **1169-1174**. **2021**.
21. Gupta, Vansh, and **Raksha Sharma***. "NLPIITR at SemEval-2021 Task 6: RoBERTa Model with Data Augmentation for Persuasion Techniques Detection." In *Proceedings of the 15th International Workshop on Semantic Evaluation (SemEval-2021)*, pp. **1061-1067**. **2021**.
22. Amish Garg, Tanav Shah, Vinay K Jain, **Raksha Sharma***, CrypTop12: A Dataset For Cryptocurrency Price Movement Prediction From Tweets And Historical Prices. 20th IEEE International Conference on Machine Learning and Applications (**ICMLA**), pp. **379-384**. **2021**. (CORE Ranking: B)
23. Chakraborty, Abhik, and **Raksha Sharma***. "A deep crystal structure identification system for X-ray diffraction patterns." *The Visual Computer* (**2021**): **1-8**. (SJR Ranking: Q2)

Link for all the published papers: <https://scholar.google.co.in/citations?user=V9oafzsAAAAJ&hl=en>

Patent

METHOD AND SYSTEM FOR TRAINING A TARGET DOMAIN CLASSIFIER TO LABEL TEXT SEGMENTS (Link: <http://www.freepatentsonline.com/y2018/0068231.html>)

Patent Number: 20180068231

Country: United States Patent

Inventors: **Raksha Sharma**, Sandipan Dandapat, Himanshu Sharad Bhatt (Filed by Xerox Research Center of India)