

# Dheeraj Mekala

Computer Science & Engineering  
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🎓 Google Scholar

## EDUCATION

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**University of California, San Diego** 2021 - present  
*PhD in Computer Science*  
Advisor: Prof. Jingbo Shang

**University of California, San Diego** 2019 - 2021  
*MS in Computer Science, Thesis Track*  
Advisor: Prof. Jingbo Shang

**Indian Institute of Technology Kanpur** 2013 - 2017  
*B.Tech in Computer Science and Engineering*

## PUBLICATIONS

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### Preprints & Submissions

\* - equal contribution

1. **Coarse2Fine: Fine-grained Text Classification on Coarsely-grained Annotated Data**  
Dheeraj Mekala, Varun Gangal, Jingbo Shang  
(under review), 2021.
2. **BFClass: A Backdoor-free Text Classification Framework**  
Zichao Li\*, Dheeraj Mekala\*, Chengyu Dong, Jingbo Shang  
(under review), 2021.
3. **News Meets Microblog: A Retriever-Generator Hashtag Annotation Framework**  
Xiuwen Zheng\*, Dheeraj Mekala\*, Amarnath Gupta, Jingbo Shang  
(under review), 2021.
4. **Bayes-optimal Hierarchical Classification over Asymmetric Tree-Distance Loss**  
Dheeraj Mekala, Vivek Gupta, Purushottam Kar and Harish Karnick.  
*arXiv:1802.06771*, 2018.

### Conference Publications

5. **XClass: Text Classification with Extremely Weak Supervision.**  
Zihan Wang, Dheeraj Mekala, Jingbo Shang  
*Conference of the North American Chapter of the Association for Computational Linguistics (NAACL)*, 2021  
(Virtual Talk).
6. **META: Metadata-Empowered Weak Supervision for Text Classification.**  
Dheeraj Mekala, Xinyang Zhang, Jingbo Shang  
*Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2020 (Virtual Talk).
7. **Contextualized Weak Supervision for Text Classification.**  
Dheeraj Mekala, Jingbo Shang  
*Association for Computational Linguistics (ACL)*, 2020 (Virtual Talk).
8. **User bias removal in review score prediction.**  
Rahul Wadbude\*, Vivek Gupta\*, Dheeraj Mekala, Harish Karnick.  
*ACM India Joint International Conference on Data Science and Management of Data (CODS/COMAD)* 2018.
9. **SCDV: Sparse Composite Document Vectors using soft clustering over distributional representations.**  
Dheeraj Mekala\*, Vivek Gupta\*, Bhargavi Paranjape, Harish Karnick.  
*Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2017 (Long Oral).

## WORK EXPERIENCE

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**Sprinklr India Pvt. Ltd.** Apr 2018 - Jul 2019  
*Data Scientist, Machine Learning Team*

- Architected and built Sprinklr AI's visual insights module, being used by over 1200 Sprinklr clients.

- Developed in-house computer vision models for visual sentiment, gender, age, and inappropriate content detection.
- Built a scalable system capable of running models over 500 million messages per day using Kafka and Elasticsearch.
- Developed a dockerized auto-scaling framework which is deployed in kubernetes for image classification.

### **Sprinklr India Pvt. Ltd.**

*Jul 2017 - Apr 2018*

*Product Engineer, Paid Advertising Team*

- Developed a centralized monitoring environment which gathers system metrics as well as docker run-time metrics.
- Developed an end-to-end pipeline that incorporated DoubleClick tracking in ads.
- Implemented core functionalities to improve the feature of importing, exporting ads.

### **Microsoft India**

*May 2016 - Jul 2016*

*Machine Learning Intern*

- Built case routing system in Microsoft Dynamics CRM, which predicts the ideal assignment candidate for a case.
- Built a robust pipeline which connects Microsoft Dynamics CRM and Azure Machine Learning studio.

### **ASnTech & Engineering Services**

*Dec 2015 - Jan 2015*

*Software Engineering Intern*

- Designed an algorithm to speed up search queries related to the location of the vehicle, from 120 sec to 5 sec.
- Designed an algorithm that dynamically analyses accelerometer data of a moving vehicle to identify outliers and driving style of the driver.

## **SELECTED ACADEMIC PROJECTS**

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### **Learning Symbolic Music Representation** | |

*Mar 2020 - June 2020*

*Deep Learning for Sequences, Prof. David Kriegman, UCSD*

- Designed rhythm-conditioned autoencoder model which generates embeddings of polyphonic multi-track music.
- Successfully reconstructed the music while preserving the rhythm of each track.

### **Portmanteau Generation** | | | **Best Project Award.**

*Sept 2019 - Dec 2019*

*Statistical Natural Language Processing, Prof. Ndapa Nakashole, UCSD*

- Converted text generation task into sequence labelling task by incorporating structural constraints.
- Designed BiLSTM-Regression ensemble model to generate portmanteaus and outperformed existing techniques.

### **Object Recognition in Surveillance Videos** |

*Dec 2015 - May 2016*

*Machine Learning Tools and Techniques, Prof. Harish Karnick, IITK*

- Extracted relevant frames from camera feed to reduce space required for data storage and identified moving objects(ROI).
- Researched techniques for feature extraction, background subtraction and experimented with multiple classifiers.

## **SELECTED AWARDS AND HONORS**

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- UCSD CSE Student Achievement Award for Excellence in Research. *2021*
- Best Project Award in Graduate-level Statistical Natural language processing course. *2019*
- Ranked in Top 0.5% in JEE Advanced (IIT-JEE) 2013 among 150,000 candidates *2013*
- Ranked in top 0.2% in JeeMains-BTech 2013 among 1,400,000 candidates *2013*
- Bronze Medal and Certificate of Merit (top 15 in India) for National Science Olympiad '13 *2013*
- Awarded KVPY Fellowship from Government of India. *2012*

## **TALKS**

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- Guest lecture, Introduction to Data Mining - *Prof. Jingbo Shang* *March 2021*
- University of Utah Data Science Seminar *September 2020*

## **PROFESSIONAL RESPONSIBILITIES**

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- *Program Committee Member:* AAAI 2021, NAACL 2021, ACL 2021, EMNLP 2021
- *Graduate Teaching Assistantship* - Dept. of Computer Science and Engineering, UCSD

– Introduction to Machine Learning - <i>Prof. Jingbo Shang</i>	<i>Spring 2021</i>
– Introduction to Data Mining - <i>Prof. Jingbo Shang</i>	<i>Winter 2021</i>
– Advanced Data-Driven Text Mining - <i>Prof. Jingbo Shang</i>	<i>Fall 2020</i>
– TA Lead on Remote Teaching	<i>Summer 2020</i>
– Mathematics for Algorithms and Systems Analysis - <i>Prof. Oliver Braun</i>	<i>Summer 2020</i>
– Introduction to Data Mining - <i>Prof. Jingbo Shang</i>	<i>Spring 2020</i>
– Introduction to Programming in Java - <i>Prof. Adalbert Gerald Soosai Raj</i>	<i>Winter 2020</i>
• <i>Regional Academic Mentor</i> - Dept. of Computer Science and Engineering, IIT Kanpur	<i>2014 - 2015</i>
• <i>Student Guide</i> - IIT Kanpur	<i>2014 - 2015</i>