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REFERENCES

Sunita Sarawagi	Ph.D. Advisor	Professor, IIT Bombay	sunita@iitb.ac.in
B. Ravindran	M.S. Advisor	Professor, IIT Madras	ravi@cse.iitm.ac.in
Abir De	Collaborator	Asst. Professor, IIT Bombay	abir@cse.iitb.ac.in

RESEARCH INTERESTS

Forecasting in temporal data (Time-series and point processes)
Forecasting Anomalies/Outliers in Multivariate Time-series
Time-series modelling (predictive analytics, missing value imputation)

EDUCATION

Ph.D., Computer Science and Engineering Jul 2017 to Present
Indian Institute of Technology Bombay, Mumbai.
• Advisor: Prof. Sunita Sarawagi

M.S. by Research, Computer Science and Engineering Jan 2014 to Jul 2017
Indian Institute of Technology Madras, Chennai.
• Thesis Topic: *A Study of Community Detection Algorithms in Large Networks*
• Advisor: Prof. B. Ravindran

B.Tech., Information Technology Jul 2009 to Jun 2013
Walchand College of Engineering, Sangli, Maharashtra.

PUBLICATIONS

- Long Range Probabilistic Forecasting in Time-Series using High Order Statistics
Under Review.
Prathamesh Deshpande and Sunita Sarawagi
[\[Arxiv\]](#), [\[Code\]](#)
- Missing Value Imputation on Multidimensional Time Series
In *VLDB 2021*.
Parikshit Bansal, Prathamesh Deshpande, Sunita Sarawagi
[\[Paper\]](#),
- Long Horizon Forecasting With Temporal Point Processes
In *WSDM 2021*. (AR 18.6 %)
Prathamesh Deshpande, Kamlesh Marathe, Abir De, Sunita Sarawagi
[\[Paper\]](#), [\[Code\]](#)
- Streaming Adaptation of Deep Forecasting Models using Adaptive Recurrent Units
In *ACM SIGKDD 2019*, August 4–8, 2019, Anchorage, AK, USA. (AR 14.2%)
Prathamesh Deshpande and Sunita Sarawagi
[\[Paper\]](#), [\[Code\]](#)
- MCEIL: An Improved Scoring Function for Overlapping Community Detection using Seed Expansion Methods
In *The 7th Workshop on Social Network Analysis in Applications, ASONAM 2017*, Sydney, Australia
Prathamesh Deshpande and B. Ravindran
[\[Paper\]](#)

HONORS AND AWARDS	<ul style="list-style-type: none"> • SIGIR Travel Grant to attend WSDM 2021, Virtual Event. • Google Travel Grant of USD2700 to attend KDD 2019, Anchorage, AK, USA. • Travel grant for attending ACM CoDS-COMAD 2018 conference, held in Goa, India. • 4th rank in HiPC 2015 Student Parallel Programming challenge. • Secured All India Rank 389 in GATE 2013, with 99.83 percentile. 	
PROFESSIONAL ACTIVITIES	<ul style="list-style-type: none"> • Reviewer, AISTATS 2022 • Reviewer, ICML 2020 	
TEACHING ASSISTANT	<ul style="list-style-type: none"> • Artificial Intelligence and Machine Learning, Autumn 2021 • Automatic Speech Recognition, Spring 2021 • Foundations of Machine Learning, Autumn 2020 • Advanced Machine Learning, Spring 2020 • Web Mining I, Autumn 2019 • Web Mining II, Spring 2019 • Introduction to Machine Learning, Autumn 2018 	
GRADUATE COURSES	<ul style="list-style-type: none"> • At IIT Bombay <ul style="list-style-type: none"> • Organization of Web Information • Advanced Machine Learning • Automatic Speech Recognition • Web Search and Mining • Foundations of Machine Learning 	<ul style="list-style-type: none"> • At IIT Madras (selected courses) <ul style="list-style-type: none"> • Data Mining • Kernel Methods for Pattern Analysis • Foundations of Data Science • Indexing and Searching in Large Data-sets
PROJECTS	<p>Convolutional Neural Networks for Graph-Structured Data (<i>Advanced Machine Learning, Guide: Prof. Sunita Sarawagi</i>) Feb 2018 to Apr 2018</p> <ul style="list-style-type: none"> • Comparison of various convolution approaches on Merck Molecular Activity Challenge dataset. • Explored various techniques to define the neighbourhood of a node for convolution on the graph-structure. <p>Emotion Recognition from Multi-modal Information (<i>Automatic Speech Recognition, Guide: Dr. Preethi Jyothi</i>) Aug 2017 to Nov 2017</p> <ul style="list-style-type: none"> • Explored BLSTM-RNNs for the task of Emotion Recognition on RECOLA dataset. • There is a delay between emotion occurring and it being labeled. • We showed that simple BLSTM-RNN does not learn the delay automatically, and it needs to be explicitly handled. <p>A Study of Community Detection Algorithms in Large Networks (<i>M.S. Thesis, Guide: Prof. B. Ravindran</i>) Jan 2016 to Jun 2017</p> <ul style="list-style-type: none"> • Proposed an improved scoring function to detect overlapping communities in large networks. • The proposed scoring function computes communities with higher mutual information and F_1 score than conductance on benchmark networks Amazon, DBLP and Youtube. • Published in SNAA Workshop, ASONAM-2017 conference. <p>Singular Value Decomposition of Large Sparse Matrices Apr 2015 to Dec 2015</p> <ul style="list-style-type: none"> • Implementation of Incremental SVD algorithm in <i>gensim</i>, a python library for text processing. • Input matrix is processed in streaming fashion. Input rows or columns can be processed as they arrive from source of the data. 	

- For sufficiently large matrices which can only be processed in streaming fashion, the accuracy of top 10-20% singular values is unaffected.

Diversity aware reverse top- k queries on graphs

(*Indexing and Searching in Large Data sets, Guide: Dr. Sayan Ranu*) Aug to Nov 2014

- A technique is proposed to introduce diversity in the result of a reverse top- k query.
- First, a reverse top- k' set S is extracted, where $k' > k$. Then, clustering is performed on S to get diversified result.

SOFTWARE SKILLS

- Python (PyTorch, TensorFlow, CVXPY)
- C, C++.
- Platform: Amazon Web Services (AWS).
- Tools: L^AT_EX.

PROFESSIONAL EXPERIENCE

Project Associate

Jan 2014 to Dec 2016

- Indian Institute of Technology, Madras.

Software Engineer

Oct 2013 to Dec 2013

- Persistent Systems Ltd., Pune.

POSITIONS OF RESPONSIBILITIES

- MS/PhD Placement Coordinator for Computer Science and Engg. at IIT Madras.
- Technical Adviser for Students' Association of Information Technology in Walchand College of Engineering, Sangli.
- Member of Walchand Linux Users' Group from June' 2011 to April' 2012, in Walchand College of Engineering, Sangli.