

Lokesh Nagalapatti

Research Scholar with IITB, India

Chennai, India

<https://nlokesh.netlify.app>

+91-9840364463

nlokeshiisc@gmail.com

Interests

Machine Learning My research interests lie in building causal Machine Learning models. I work on problems related to Algorithmic recourse, Treatment effect estimation etc. for my PhD. In the past, I have worked on diverse set of topics like Federated Learning, Outlier robust representation learning of Social networks, assessing data quality metrics etc.

Work Experience

May 2024 - Current Research intern at Microsoft Research India.
2019-2020 Research Software Engineer at IBM Research-India.
2016-2017 Member Technical Staff at Adobe R&D Systems, Bangalore
2015-2016 Software Development Engineer-1 at Samsung R&D Institute, Bangalore.

Publications

ICML'24 **N Lokesh***, Pranava Singhal*, Avishek Ghosh, Sunita Sarawagi, PairNet: Training with Observed Pairs to Estimate Individual Treatment Effect.
AAAI'24 **N Lokesh**, Akshay Iyer, Abir De, Sunita Sarawagi, Continuous Treatment Effect Estimation Using Gradient Interpolation and Kernel Smoothing.
WACV'24 **N Lokesh***, Durga Sivasubramanian*, Ganesh Ramakrishnan, Rishabh Iyer, Gradient Coresets for Federated Learning
Neurips'22 **N Lokesh**, Guntakanti Sai Koushik, Abir De, Sunita Sarawagi, Learning Recourse on Instance Environment to Enhance Prediction Accuracy
AAAI'22 **N Lokesh**, R. S. Mittal, Ramasuri Narayanam, Is Your Data Relevant?: Dynamic Selection of Relevant Data for Federated Learning
ICDE'21 Eitan Farchi, Ramasuri Narayanam, **N Lokesh**, Ranking Data Slices for ML Model Validation: A Shapley Value Approach
AAAI'21 **N Lokesh**, Ramasuri Narayanam, "Game of Gradients: Mitigating irrelevant clients in Federated Learning". In: AAAI Conference on Artificial Intelligence
KDD'20 Tutorial Overview and Importance of Data Quality for Machine Learning Tasks. In: 26th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining.
WSDM'20 Sambaran Bandyopadhyay, **N Lokesh***, Saley Vishal Vivek*, and M Narasimha Murty. "Outlier Resistant Unsupervised Deep Architectures for Attributed Network Embedding". In: 13th ACM international conference on Web search and data mining (WSDM'20).
AAAI'19 Sambaran Bandyopadhyay, **N Lokesh**, and M Narasimha Murty. "Outlier Aware Network Embedding for Attributed Networks". In: AAAI Conference on Artificial Intelligence

Patents

USPTO Training sample set generation from imbalanced data in view of user goals
USPTO Generating task-specific training data
USPTO Federated machine learning based on partially secured spatio-temporal data
USPTO Federated learning data source selection
USPTO Automatically detecting outliers in federated data
USPTO Data quality assessment for unsupervised machine learning
USPTO Machine-learning model retraining detection
USPTO Quality assessment of machine-learning model dataset

Academic Overview

2021-Current	Ph.D. in Computer Science, the Indian Institute of Technology Bombay (IITB).
2017-2019	M.Tech. in Computer Science, the Indian Institute of Science (IISc), Bangalore. 9.0 CGPA. Distinction class.
2011-2015	B.E. in Computer Science and Engineering, College of Engineering Guindy (CEG), Anna University, Chennai. 8.83 CGPA. Distinction class.
2010-2011	Higher Secondary Education in Computer Science stream, State Board of Tamil Nadu, 9.825 CGPA.

Courses at IITB

AI	Advanced Machine Learning, Organizing web information, Learning of Autonomous agents, Optimization in machine learning
----	--

Courses at IISc

Theory	Design and analysis of algorithms, Graph theory, Real analysis (audit)
Systems	Database management systems(DBMS), Operating System(OS), Program analysis and verification(PAV), Computer architecture (audit)
AI	Linear algebra, Probability, Pattern recognition and neural networks, Topics in pattern recognition(TIPR), Natural language understanding(NLU)

Achievements

Best Talk, RISC	Received the best talk award in the Research in Computer Science (RISC) event conducted at CSE Dept., IITB.
Best TA Award	Awarded the best TA award for the courses - AI/ML, Advanced ML by the CSE Dept., IIT Bombay.
PMRF	Selected for the prestigious Prime Minister Research Fellowship program to fund doctoral studies.
Innovation Award	Received at IBM Research-India in recognition of leading and driving brainstorming sessions in the team.
All Hands Award	Received at IBM Research-India in recognition of contributions to the problems of <i>representative set sampling</i> and <i>data homogeneity</i> in structured data. This solution is integrated in Data Refinery, a flagship product of IBM.
Gate'17	Secured All India Rank 189 in GATE [Graduate Aptitude Test in Engineering] (Computer Science). 99 th percentile.
NIPUN	Developed a POC, 3D Print preview and presented in NIPUN, an intra Samsung event. Secured second place and won prizes worth <i>INR 50,000/-</i> .
Advanced Coder	Cleared Advanced level Coding contest conducted in Samsung
Microsoft Code.fun.do	Developed a game in Unity for Microsoft 3 days hackathon. Runner in the event and won cash prize worth <i>INR 16,000/-</i> .

Invited Talks

2024	Invited by IndoML Reading Group to present on " <i>Continuous Treatment Effect Estimation.</i> "
2023	Invited by Amex Research Bangalore to present on " <i>Introduction to Causal Inference</i> "
2022	Invited by Adobe Research India to present on the topic " <i>Learning Recourse on instance environment to enhance prediction accuracy.</i> "
2020	Invited by the Department of Management, JDBI Kolkatta, to talk in Management Development Programme on " <i>Business Analytics / AI Enabled Business</i> ".
2019	Invited by CS dept., College of Engineering Guindy to talk on " <i>Outsmarting the outliers in Social Networks</i> ".

Responsibilities

Instructor at VJTI	Taught, and handled courses ML Lab UG, ML Lab PG, at VJTI Mumbai.
TA at IITB	served as a TA for the courses Data Structures and Algorithms, Theoretical Machine Learning, Advanced Machine Learning, AI/ML during multiple offerings.
TA at NPTEL	Taught a basic course on Linear Algebra for Undergraduate GATE aspirants through the NPTEL portal.
TA - Spring, 2020	Served as a Teaching Assistant for the course <i>Deep Learning</i> , offered by Prof. Sargur N. Srihari.
CSA-UGSS	Organizer of CSA Under Grad Summer school in IISC, an event for engg. undergrads in India
NSS	NSS unit II volunteer in 2011, 2012 and Core committee member in 2014 at CEG
Vidhaigal'14	Organizer of Vidhaigal'14 an event conducted for specially abled school children in Chennai
Abacus'14	Organizer of events DB-Mania a Database event, Reverse Coding a Coding event in Abacus, CS dept. Symposium at College of Engineering, Guindy.

References

Available on request.