Rishikesh Jha

Basic Information	Master of Science College of Information Computer Science University of Massachusetts Amherst	+1(413)-923-8641 ☎ rishi.jha15@gmail.com ✉ tantrik16.github.io ⬥

Research Interests

Transfer Learning, Self-Supervised Learning, Meta-Learning, Natural Language Processing

Education

University of Massachusetts, Amherst	**4.0/4.0**
M.S, Computer Science Sep, '17 - May, '19	
Birla Institute of Technology, Mesra	**7.49/10**
B.E, Computer Science July, '11 - May, '15	

Publications

Learning to Few-Shot Learn Across Diverse Natural Language Classification Tasks
Rishikesh Jha, Trapit Bansal, and Andrew McCallum. Preprint
Shortened Version Under Review at ACL 2020.
Designed a learning routine that allows improved generalization to unseen tasks during test time by generating task dependent parameters.

Cache Miss Rate Predictability via Neural Network, *Rishikesh Jha, Arjun Kuravally, Saket Tiwari, and Eliot Moss.* Accepted at **NeurIPS 2018 Workshop on ML for Systems** Paper
Designed a Deep Neural Network for predicting cache miss rates in benchmark programs, inspired by WaveNet model for audio generation.

Emission-aware Energy Storage Scheduling for a Greener Grid, *Rishikesh Jha, Stephen Lee, Srinivasan Iyengar, Mohammad Hajiesmali, Prashant Shenoy, David Irwin.* Under Review at International Conference on Cyber Physical Systems 2020 (Preprint Available on request)
A robust optimization approach for planning battery schedule under uncertainty for reducing greenhouse emissions in the grid.

Non-Refereed Publications

Non-Uniform Sampling for Faster Convergence in Neural Networks *Rishikesh Jha, Amol Agarwal, Paresh Shukla.* Machine Learning Course Project Techreport
Exploring sample gradient and variance based strategies for sampling training data during stochastic gradient descent.

Energy Storage in Time Saves Nine, A Case for a Greener Smart Grid, *Rishikesh Jha, Srinivasan Iyengar, Prashant Shenoy.* Techreport

Ongoing Work

Meta-Learned task weights for improved multitask learning *Rishikesh Jha* Techreport
Learning task importance weights during multitask learning for improved performance on target task.

Graduate Level Courses

Reinforcement Learning, Machine Learning, Neural Networks, Stochastic Processes, Probabilistic Graphical Models

Undergraduate Level Courses

Artificial Intelligence, Data Mining and Data Warehousing, Soft Computing, Parallel and Distributed Systems, Compiler Design, System Programming

Professional Experience

Code for Science & Society	Amherst, MA
Research Engineer(Advised by Professor Andrew McCallum)	June, '19 - Present

Biomedical Scientific Paper Recommendation System
- Finetuned paper and author embeddings based on link prediction in citation graph for recommendation
- Designed Sci-bert based hybrid recommendation engine

Header Entity Extraction from Structured Document
- Designed a system for extracting header elements from research papers incorporating visual features using Single Shot Detector.

Media.net, Worlds 2nd largest contextual advertisement network   Mumbai, India
Software Engineer, Automated Optimization Team   June, '15 - June, '17

Advertisement Recommender system
- Built end to end pipeline for serving and selecting advertisement relevant to user interest
- Implemented a distributed MinHash algorithm for Spark to create clusters online using browsing history of upto 30M daily users
- Generated targeted ads for a user cluster by performing collaborative filtering on clusters
- Built co-visitation based system for suggesting related advertisement based on past click history
- Achieved revenue boost of 250% on prominent customers like msn.com and forbes.com

Anomaly Detection in System metrics
- Researched and delivered an end-to-end anomaly detection system using Elastic, Logstash and Kibana(ELK) stack for important system metrics such as Average Processing time, IO time

HONORS AND AWARDS	Data science for common good fellow, University of Massachusetts Amherst

Data science for common good fellow, University of Massachusetts Amherst

Ranked **20th** among 1534 teams in **ACM ICPC Amritapuri Regionals, 2014**

Ranked **34th** among 281 teams in **ACM ICPC Kanpur Regionals, 2013**

Among **top 1%** of over 468,000 students who appeared for IIT-JEE 2011 and among **top 0.5%** of over 1,100,000 students who appeared for AIEEE 2011

EXTRA CURRICULARS

Treasurer, Association of Computing Machinery(ACM)   Sep, '14 - June, '15
BIT Mesra Students Chapter
- Conducted workshops on competitive programming and algorithm design
- Designed problems for weekly intra-college programming contests

Head of Organizing Committee of Cyber Gaming Festival   April, '14 - June, '15
BIT Mesra

SKILLS

Languages: C, C++, Java, Scala, Python, PHP, Javascript
Technologies: Tensorflow, PyTorch, Keras, Hadoop, Spark, Kafka, Redis, MongoDB

REFERENCES

Prashant Shenoy	**Eliot Moss**	**Andrew McCallum**
Professor and Associate Dean	Professor	Professor
UMass, Amherst	UMass, Amherst	UMass, Amherst
shenoy@cs.umass.edu	moss@cs.umass.edu	mccallum@cs.umass.edu