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

Machine Learning, Planning, Optimization, Deep Learning

Education

University of Massachusetts, Amherst **4.0/4.0**
M.S, Computer Science Sep, '17 - May, '19

Birla Institute of Technology, Mesra **7.5/10**
B.E, Computer Science July, '11 - May, '15

Honors and Awards

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

Publications

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

A Neural Network and Robust Optimization Approach for A Greener Smart Grid, *Rishikesh Jha, Srinivasan Iyengar, Prashant Shenoy.* Techreport

A Data Driven Predictive Approach for Client-side Buffering of 360 Video, *Rishikesh Jha, Paul Mikulskis, Srinivasan Iyengar, Ahmad Ali-Edin, and Prashant Shenoy* To be submitted at ACM SIGMM 2019. Techreport

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

non-refereed Publications

Non-Uniform Sampling for Faster Convergence in Neural Networks *Rishikesh Jha, Amol Agarwal, Paresh Shukla.* Machine Learning Course Project Techreport

Memory Access Entropy Prediction *Rishikesh Jha* Characterizing sequences of memory addresses access entropy in benchmark programs. In completion of Independent study under Prof Eliot Moss.

Graduate Level Courses

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

Undergraduate Level Courses

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

Professional Experience

Burning Glass Technologies Boston, MA
Data Science Intern Jan, '18 - May, '18

Skill Knowledge Graph

- Implemented NER model using Spacy on unstructured Wikipedia data to extract new skills
- Constructed a dataset from relationship extraction using distant supervision
- Researched context aware LSTM entity relationship model to extract relationships among skills for building knowledge graph

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

Media.net — Mumbai, India
Software Engineer Intern, Logging Team — Jan, '15 - June, '15

Real-time Statistics in Druid

- Set up a **10 node Druid cluster** (open-source fast column oriented datastore) to ingest logs from Kafka on various topics to power interactive **real-time analysis** of event streams
- Established **lambda architecture** to ensure best-effort results on very recent data and guaranteed-correct results on older data
- **Scalable architecture** which ingests real-time stream of over **30 GB per hour**

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**	**Matthew Rattigan**
Professor and Associate Dean	Professor	Lecturer and Research Director
UMass, Amherst	UMass, Amherst	UMass, Amherst
shenoy@cs.umass.edu	moss@cs.umass.edu	rattigan@cs.umass.edu