

Shashank Gupta

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RESEARCH INTERESTS

Information retrieval, Machine learning, Causal inference.

EDUCATION

University of Amsterdam (UvA)

PhD, ML and IR, April 2021 - Current

Advisors: Dr. Maarten de Rijke, UvA

Dr. Harrie Oosterhuis, Radboud University

Research Group: **The Information Retrieval Lab (IRLab).**

International Institute of Information Technology (IIIT), Hyderabad

Master of Science By Research, Computer Science and Engineering, June 2015 - Dec'17

Advisors: Dr. Vasudeva Varma, Dean R&D, IIIT-Hyderabad

Dr. Manish Gupta, Principal Applied Scientist, Microsoft, Hyderabad

Research Group: **Information Retrieval and Extraction Laboratory (IREL).**

Birla Institute of Technology, Mesra, India

Bachelor Of Technology, Computer Science and Engineering, June 2010 - June 2014.

PROFESSIONAL ACTIVITIES

Reviewer: ACL-RR(21), NeuRIPS(20-22), ICML(20-22), ICLR(21-22), AAAI'21, EMNLP(20-21), ECIR(19-21), CIKM'21, ACL'21, IJCNLP'20, IRJ, ML4H@NIPS 17-18

Teaching Assistant: Advanced Information Retrieval, UvA (2022), Information Retrieval and Extraction, IIIT-H (2018), Machine Learning, IIIT-Hyderabad (2017), Machine Learning, BITS-Pilani (2015).

RELEVANT EXPERIENCE

Meta AI, London, UK

Research Scientist Intern, Modern Recommender Systems Team, Aug 2023 - Dec 2023

Mentor: Dr. Zilong Tan.

Research scientist intern; working on off-policy learning for two-stage recommender system.

Flipkart, Bangalore, India

Data Scientist, Search Ranking Team, July 2018 - Jan 2021

Mentor: Mohit Kumar.

Worked on learning to rank methods for personalized search. Worked with terabyte scale log data using PySpark and Tensorflow. Also worked on the problem of session length prediction for user's incoming search session to help disambiguate their explore v/s purchase intent (SIGIR'20).

Conduent Labs (erstwhile Xerox Research (XRCI)), Bangalore, India

Research Internship, Jan 2018 - May 2018

Mentors: Manjira Sinha & Sandya Mannarswamy

Worked on the problem of fake news detection. Proposed a novel Coupled Matrix-Tensor Factorization (CMTF) based solution for the problem (ASONAM'18).

Tata Research, Design and Development Center, Pune, India

Research Internship, May 2017 - July 2017

Mentors: Girish Palshikar, Sachin Pawar & Nitin Ramrakhiani

Worked on semi-supervised and multi-task learning based methods for Adverse Drug Reaction (ADR) mention extraction from social media posts (ECIR'18, CIKM'17 and NeuRIPS'17 workshop).

JOURNAL PUBLICATIONS	<p>Semi-Supervised Recurrent Neural Network for Adverse Drug Reaction Mention Extraction <u>Shashank Gupta</u>, Sachin Pawar, Nitin Ramrakhiyani, Girish Keshav Palshikar, Vasudeva Varma BMC Bioinformatics Special Issue, presented at CIKM 2017 (47 citations).</p>
TUTORIALS	<p>Recent Advances in the Foundations and Applications of Unbiased Learning to Rank <u>Shashank Gupta</u>, Philipp Hager, Jin Huang, Ali Vardasbi, and Harrie Oosterhuis. SIGIR 2023.</p>
CONFERENCE PUBLICATIONS	<p>Safe Deployment for Counterfactual Learning to Rank with Exposure-Based Risk Minimization <u>Shashank Gupta</u>, Harrie Oosterhuis, and Maarten de Rijke SIGIR 2023 (Full paper).</p> <p>A Deep Generative Recommendation Method for Unbiased Learning From Implicit Feedback <u>Shashank Gupta</u>, Harrie Oosterhuis, and Maarten de Rijke ICTIR 2023, CONSEQUENCES+REVEAL at RecSys 2022.</p> <p>Neural Bag-of-Words Point Process Model for User Return Time Prediction in E-commerce <u>Shashank Gupta</u>, Manish Bansal CRUM Workshop at UMAP 2023.</p> <p>The University of Amsterdam at the TREC 2021 Fair Ranking Track Ali Vardasbi, Gabriel Bndict, <u>Shashank Gupta</u>, Maria Heuss, Pooya Khandel, Ming Li, Fatemeh Sarvi TREC Fair Ranking Trec 21.</p> <p>Predicting Session Length for Product Search on E-commerce Platform <u>Shashank Gupta</u>, Subhadeep Maji SIGIR 2020, Short (2 citations).</p> <p>On Application of Bayesian Parametric and Non-parametric Models for User Cohorting in Product Search <u>Shashank Gupta</u> ECNLP@ACL20, Position paper (2 citations).</p> <p>RARE: A Recurrent Attentive Recommendation Engine for News Aggregators Vaibhav Kumar, Dhruv Khattar, <u>Shashank Gupta</u>, Manish Gupta, and Vasudeva Varma CIKM 2018, Workshop on News Recommendation and Analytics (INRA 2018).</p> <p>CIMTDetect: A Community Infused Matrix-Tensor Coupled Factorization Based Method for Fake News Detection <u>Shashank Gupta</u>, Raghuveer Thirukovalluru, Manjira Sinha, and Sandya Mannar-swamy. ASONAM 2018, Short (41 citations).</p> <p>Multi-Task Learning for Extraction of Adverse Drug Reaction Mentions from Tweets <u>Shashank Gupta</u>, Manish Gupta, Vasudeva Varma, Sachin Pawar, Nitin Ramrakhiyani, Girish Keshav Palshikar ECIR 2018 (Full) and NIPS 2017 ML4H Workshop (11 citations).</p>

A Co-training Based Method for Extraction of Adverse Drug Reaction Mentions from Tweets

Shashank Gupta, Manish Gupta, Vasudeva Varma, Sachin Pawar, Nitin Ramrakhiyani, Girish Keshav Palshikar

ECIR 2018 (Short) and NIPS 2017 ML4H Workshop (16 citations).

TCS Research at TAC 2017: Joint Extraction of Entities and Relations from Drug Labels using an Ensemble of Neural Networks

Sachin Pawar, Nitin Ramrakhiyani, Girish Keshav Palshikar, Shashank Gupta, Vasudeva Varma

TAC 2017 ADR Track (2 citations).

Semi-Supervised Recurrent Neural Network for Adverse Drug Reaction Mention Extraction

Shashank Gupta, Sachin Pawar, Nitin Ramrakhiyani, Girish Keshav Palshikar, and Vasudeva Varma

CIKM 2017, Workshop on Data and Text Mining in Biomedical informatics, and BMC Bioinformatics Special Issue (47 citations).

Enhancing Categorization of Computer Science Research Papers using Knowledge Bases,

Shashank Gupta, Priya Radhakrishnan, Manish Gupta, Vasudeva Varma

SIGIR 2017, Works. on Knowledge Graphs & Semantics for Text Retrieval & Analysis (2 citations).

Deep Neural Architectures for News Recommendation,

Vaibhav Kumar, Dhruv Khattar, Shashank Gupta, Manish Gupta, Vasudeva Varma
Conference and Labs of the Evaluation Forum (CLEF) 2017 (50 citations).

Simultaneous Inference of User Representations and Trust,

Shashank Gupta, Pulkit Parikh, Manish Gupta, Vasudeva Varma

ASONAM 17, Short.

Deep Learning for Hate Speech Detection in Tweets

Pinkesh Badjatiya*, Shashank Gupta*, Manish Gupta, Vasudeva Varma (***Equal Contribution**)(**Best Poster Award**)

WWW 2017, Poster track (**986 citations**).

Scientific Article Recommendation by using Distributed Representations of Text and Graph

Shashank Gupta, Vasudeva Varma

WWW 2017, Workshop track (57 citations).

User Profiling based Deep Neural Network for Temporal News Recommendation

Vaibhav Kumar, Dhruv Khattar, Shashank Gupta, Manish Gupta, and Vasudeva Varma

ICDM 2017, Workshop Track (11 citations).

Word Semantics based 3D Convolutional Neural Networks for News Recommendation

Vaibhav Kumar, Dhruv Khattar, Shashank Gupta and Vasudeva Varma

ICDM 2017, Workshop track (12 citations).

**SKILLS
& TOOLS**

PyTorch, Keras, Scikit-Learn, Tensorflow, Theano

Lucene, ElasticSearch

Python, MATLAB, C, C++, Java

AWARD AND ACHIEVE- MENTS	<p>Received the Best Poster Paper Award at International World Wide Web Conference (WWW) 2017.</p> <p>Work on hate speech detection got covered in The Hindu, Indian Express and few other leading news outlets. http://bit.ly/2k9FnFi</p> <p>SIGIR student travel grant to attend SIGIR and ICTIR 2023.</p> <p>SIGCHI student travel grant to attend UMAP 2023 (declined).</p> <p>Travel Grant to attend NIPS 2017 (declined).</p> <p>TCS Research travel grant for attending CIKM'17.</p> <p>Selected to attend IISC's Winter School on Machine Learning 2015.</p>
RELEVANT COURSEWORK	<p>Machine Learning</p> <p>Information Retrieval and Extraction</p> <p>Topics in Information Retrieval</p> <p>Topics in Natural Language Processing</p> <p>Digital Image Processing</p>
STUDENT SUPERVISION	<p>Srijan Kaur (Masters UvA 2022): Knowledge distillation for efficient user modeling.</p> <p>Richter Van Emmerik (BSc AI 2023): Exploring Large Language Models for Recommender System.</p> <p>Beer Meester (BSc AI 2023): Offline Reinforcement Learning for Learning-to-Rank.</p>
TALKS	<p><i>Safe Deployment for Counterfactual Learning to Rank</i>, Presented at MetaAI, New York (remotely).</p> <p><i>Safe Deployment for Counterfactual Learning to Rank</i>, Presented at SIGIR 2023.</p> <p><i>VAE-IPS: A Deep Generative Recommendation Method for Unbiased Learning From Implicit Feedback</i>, Presented at CONSEQUENCES+REVEAL workshop@RecSys'22.</p> <p><i>Session Length Prediction for Product Search on E-commerce Platform</i>, Presented at SIGIR, 2020 https://dl.acm.org/doi/abs/10.1145/3397271.3401219</p> <p><i>Scientific Article Recommendation using Deep Embeddings</i>, Presented at World Wide Web Conference, Perth, 2017 http://bit.ly/2nfmhi3</p> <p><i>Trust Prediction in Social Network using Deep Neural Networks</i>, Presented at ASONAM conference, Sydney, 2017 http://bit.ly/2zzya7CF</p> <p><i>Semi-supervised Recurrent Neural Network for Adverse Drug Reaction Mention Extraction from Twitter</i>, Presented at CIKM Conference, Singapore, 2017 http://bit.ly/2AHby5Y</p> <p><i>Pharmacovigilance from Social Media using Multi-task and Semi-Supervised Learning</i>, Presented at ECIR Conference, Grenoble, 2018</p> <p><i>Machine Learning Methods for Mining Adverse Drug Reactions from Social Media</i>, Presented at DUKE-NUS Medical School, Singapore, 2017</p> <p><i>Deep Learning Methods for Recommendation Systems</i>, Presented at Thiagarajar College of Engineering, Madurai</p> <p><i>Information Retrieval from Social Media</i>, Presented at Alumni Research Talk (ART), BITS Pilani, Pilani.</p>