

# Ashish Gupta

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INTERESTS	Machine Learning, Natural Language Processing, Information Extraction, Information Retrieval, Reinforcement Learning
EDUCATION	<p><b>M.Tech(CSE) with specialisation in Machine Learning</b></p> <p>▪ <b>IIIT Bangalore</b> Jul 2016 – Jul 2018</p> <ul style="list-style-type: none"><li>• Thesis: Neural Attention Reader for Video Comprehension</li><li>• Adviser: Prof. Manish Gupta</li><li>• Focus: Information Retrieval, Information Extraction, Videos, Attention Mechanism, Bidirectional LSTM, Distant Supervision, Differential Weighing</li></ul> <p><b>B.Tech in CSE</b></p> <p>▪ <b>SRMCEM(Uttar Pradesh Technical University)</b> Aug 2008 – Jun 2012</p> <ul style="list-style-type: none"><li>• Deans List for 3 years.</li></ul>
RELEVANT EXPERIENCE	<p><b>Microsoft</b></p> <p>▪ <b>Applied Scientist II</b> Apr 2021 – Present</p> <ul style="list-style-type: none"><li>• Working in Defensive Ranker team where we need to rank documents based on the nature of threat.</li><li>• Use multiple techniques like QCBoost, etc to measure the performance.</li><li>• Working in Defensive Search team where we work on specific threats like coronavirus, black lives matter, anti-semitic, etc to suppress URLs based on their nature.</li><li>• Worked in creation of Universal metric measurement set and used multiple Bayesian sampling methods for scaling across different languages and regions</li></ul> <p><b>Walmart Global Tech</b></p> <p>▪ <b>Data Scientist</b> Aug 2019 – Apr 2021</p> <ul style="list-style-type: none"><li>• Worked in Catalog Data Science team.</li><li>• Built deep learning models for attribute extraction from text.</li><li>• Developed a Smart normalization tool to match the non-standard/junk text present in the catalog to the standard text.</li><li>• Developed BERT based models for classification and sequence labeling in Multi-lingual models. These models are further used in product search.</li><li>• Lead an initiative to build an autotagger tool for reducing the amount of tagged data and build efficient models with limited data.</li><li>• Worked on jointly leveraging strong supervision data along with weak supervision data to train neural models.</li><li>• Lead an initiative on discovering high-quality entities/attributes from Walmart product reviews. This will help to enrich the catalog in a more fine-grained manner.</li></ul> <p>▪ <b>Senior Statistical Analyst</b> Jul 2018 – Jul 2019</p> <ul style="list-style-type: none"><li>• Worked on retail graph for home and furniture section, which includes entity extraction, style prediction. Built models which helped in substitute and complementary products recommendation.</li></ul> <p><b>VideoKen Software Pvt. Ltd, IIIT Bangalore Innovation Centre</b></p> <p>▪ <b>Visiting Researcher</b> Jan 2018 – Jun 2018</p> <ul style="list-style-type: none"><li>• Worked on neural multi-task reader for Video Comprehension. Used Attention Mechanism, Bidirectional LSTM, self-attention and did meaningful bifurcations of the raw text to complete the task.</li></ul> <p><b>IIIT Bangalore, Bangalore</b></p> <p>▪ <b>Teaching Assistant</b> Jan 2018 – Jun 2018</p> <ul style="list-style-type: none"><li>• Teaching Assistant for courses: Maths for Machine Learning and Practical Machine Learning</li></ul> <p><b>Tata Consultancy Services</b></p> <p>▪ <b>Systems Engineer(Data)</b> Nov 2012 – Jun 2016</p> <ul style="list-style-type: none"><li>• Worked in Oracle apps (an ERP tool) as an OTR consultant. Worked in GE Healthcare projects.</li><li>• Worked in SCM(Supply Chain Management), Purchase Order and Order Management modules of Oracle apps.</li><li>• Worked in project Germany LCS Project, WIPROGE LE Merger, Oracle R12 upgrade where I made and updated some of the custom PL/SQL codes.</li></ul>
PUBLICATIONS	▪ <b>Learning with Limited Labels via Momentum Damped Differentially Weighted Training</b>

	<ul style="list-style-type: none"> <li>• Rishabh Mehrotra, Ashish Gupta in KDD 2020.</li> <li>▪ <b>Joint Attention Neural Model for Demand Prediction in Online Marketplaces</b> <ul style="list-style-type: none"> <li>• Ashish Gupta, Rishabh Mehrotra in NLDL 2020.</li> </ul> </li> <li>▪ <b>Hyperparameter optimization with REINFORCE and Transformers</b> <ul style="list-style-type: none"> <li>• Chepuri Shri Krishna, Ashish Gupta, Swarnim Narayan, Himanshu Rai, and Diksha Manchanda got accepted in IEEE BigData 2020.</li> </ul> </li> <li>▪ <b>Ultron-AutoML: an open-source, distributed, scalable framework for efficient hyper-parameter optimization</b> <ul style="list-style-type: none"> <li>• Swarnim Narayan, Chepuri Krishna, Varun Mishra, Abhinav Rai, Himanshu Rai, Chandrakant Bharti, Gursirat Singh, Ashish Gupta, and Nitinbalaji Singh in IEEE BigData 2020.</li> </ul> </li> <li>▪ <b>Sequence-aware Reinforcement Learning over Knowledge Graphs</b> <ul style="list-style-type: none"> <li>• Ashish Gupta, Rishabh Mehrotra in RecSys REVEAL 2019.</li> </ul> </li> <li>▪ <b>Neural Attention Reader for Video Comprehension</b> <ul style="list-style-type: none"> <li>• Ashish Gupta, Rishabh Mehrotra, Manish Gupta in KDD Deep Learning Day 2018.</li> </ul> </li> </ul>
<b>PATENTS</b>	<ul style="list-style-type: none"> <li>▪ <b>Ultron-AutoMLv2: a distributed framework for efficient hyper-parameter optimization (HPO) of ML models</b> <ul style="list-style-type: none"> <li>• Chepurishri Krishna, Amit Agarwal, Ashish Gupta, Swarnim Narayan, Himanshu Rai, Varun Mishra, Abhinav Rai, Chandrakant Bharti, Gursirat Singh and Nitinraj Balajisingh</li> </ul> </li> </ul>
<b>BLOGS</b>	<ul style="list-style-type: none"> <li>▪ <b>An Introduction to Meta-Learning</b></li> <li>▪ <b>Introduction to Reinforcement Learning</b></li> </ul>
<b>PROJECTS</b>	<p><b>Deep Recurrent Generative Decoder for Abstractive Text Summarization (EMNLP 2017)</b> Sequence to sequence oriented encoder decoder model with attention mechanism and variational auto encoders.</p> <ul style="list-style-type: none"> <li>▪ Novel approach to text summarization with GRU and attention mechanism. Oct 2019 – Dec 2019</li> </ul> <p><b>Hierarchical Attention Networks for Document Classification</b> Implementation of Hierarchical Attention Networks paper NAACL 2016.</p> <ul style="list-style-type: none"> <li>▪ Movie reviews from IMDB dataset are used for prediction. Mar 2018 – Mar 2018</li> </ul> <p><b>Image-based recommendations on Styles and Substitutes,</b> Guide:- Prof. Dinesh Babu Jayagopi</p> <ul style="list-style-type: none"> <li>▪ Recommending apparels to users based on their choice and the complementary products.This work was done on a subset of Amazon dataset. <b>Click here</b> to checkout the video. Mar 2017 – May 2017</li> </ul>
<b>ACHIEVEMENTS / CO-CURRICULAR ACTIVITIES</b>	<ul style="list-style-type: none"> <li>▪ Top 12%(Placed 30 out of 252 teams) in KDD 2019   Policy Learning for Malaria Control - Maximize rewards for malaria prevention sequential decision making task.</li> <li>▪ Top 20%(Placed 303 out of 1571 teams) in Google QUEST Q&amp;A Labeling - Improving automated understanding of complex question answer content.</li> <li>▪ Top 3%(Placed 94 out of 4037 teams) in Quora Insincere Question Classification - To identify and flag insincere questions in Quora.</li> <li>▪ Top 1.4%(Placed 28 out of 2000 teams) in Microsoft AI India Challenge 2018 - Ranking passage according to relevance containing answer to a given question.</li> <li>▪ Top 12%(Placed 454 out of 3967 candidates) in Kaggle (TalkingData AdTracking Fraud Detection) Challenge - Predicting whether a user will download an app after clicking a mobile app ad.</li> <li>▪ Achieved AIR 56 in ISRO Scientist/SC exam(July'16).</li> <li>▪ Qualified GATE'16 with 98.8 percentile(Feb'16).</li> </ul>
<b>AWARDS &amp; SCHOLARSHIPS</b>	<ul style="list-style-type: none"> <li>▪ Winner of AI Hackathon organized by Target HR Bangalore Aug 2018</li> <li>▪ Dean's List, Fall 2008 through Spring 2011, SRMCEM 2008 – 2011</li> </ul>
<b>PROFESSIONAL AFFILIATIONS &amp; ACTIVITIES</b>	<ul style="list-style-type: none"> <li>Reviewer of Knowledge Discovery and Data Mining(KDD 2021) 2021</li> <li>Reviewer of Association for Computational Linguistics(ACL 2020) 2020</li> <li>Natural Language Processing with Attention Models(Coursera) 2020 – Present</li> <li>SIGIR Conference on Research and Development in Information Retrieval(SIGIR 2019) 2019</li> </ul>

**SKILLS**

- **AI/ML:** Tensorflow, PyTorch, Keras, NLTK, scikit-learn, spaCy
- **Optimization:** CVXPY
- **Programming Languages:** C, Java, Python
- **IDEs:** Pycharm, Google Colab, AWS, Eclipse
- **Database:** Hive, MySQL, MongoDB, MS SQL Server