Ashish Gupta

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INTERESTS

Machine Learning, Natural Language Processing, Information Extraction, Information Retrieval, Reinforcement Learning

EDUCATION

M.Tech(CSE) with specialisation in Machine Learning

- **IIIT Bangalore**, Bangalore, Karnataka — Jul 2016 – Jul 2018
  - Thesis: Neural Attention Reader for Video Comprehension
  - Adviser: Prof. Manish Gupta
  - Focus: Information Retrieval, Information Extraction, Videos, Attention Mechanism, Bidirectional LSTM, Distant Supervision, Differential Weighing

B.Tech in CSE

- **SRMCEM(Uttar Pradesh Technical University)**, Lucknow, Uttar Pradesh — Aug 2008 – Jun 2012
  - Deans List for 3 years.

RELEVANT EXPERIENCE

Walmart Labs India,Bangalore

- **Data Scientist** — Aug 2019 – Present
  - Working in Catalog Data Science team.
  - Built deep learning models for attribute extraction from text.
  - Developed a Smart normalization tool to match the non-standard/junk text present in the catalog to the standard text.
  - Developed BERT based models for classification and sequence labeling in Multi-lingual models. These models are further used in product search.
  - Lead an initiative to build an autotagger tool for reducing the amount of tagged data and build efficient models with limited data.
  - Worked on jointly leveraging strong supervision data along with weak supervision data to train neural models.
  - 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.
- **Senior Statistical Analyst** — Jul 2018 – Jul 2019
  - 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.

VideoKen Software Pvt. Ltd, IIIT Bangalore Innovation Centre

- **Visiting Researcher** — Jan 2018 – Jun 2018
  - 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.

IIIT Bangalore, Bangalore

- **Teaching Assistant** — Jan 2018 – Jun 2018
  - Teaching Assistant for courses: Maths for Machine Learning and Practical Machine Learning

Tata Consultancy Services, Kolkata

- **Systems Engineer(Data)** — Nov 2012 – Jun 2016
  - Worked in Oracle apps (an ERP tool) as an OTR consultant. Worked in GE Healthcare projects.
  - Worked in SCM(Supply Chain Management), Purchase Order and Order Management modules of Oracle apps.
  - Worked in project Germany LCS Project, WIPROGE LE Merger, Oracle R12 upgrade where I made and updated some of the custom PL/SQL codes.

PUBLICATIONS

- **Learning with Limited Labels via Momentum Damped Differentially Weighted Training**
  - Rishabh Mehrotra, Ashish Gupta in KDD 2020.
- **Joint Attention Neural Model for Demand Prediction in Online Marketplaces**
  - Ashish Gupta, Rishabh Mehrotra in NLDL 2020.
- **Hyperparameter optimization with REINFORCE and Transformers**
  - Chepuri Shri Krishna, Ashish Gupta, Swarnim Narayan, Himanshu Rai, and Diksha Manchanda got accepted in IEEE BigData 2020.
- **Ultron-AutoML: an open-source, distributed, scalable framework for efficient hyper-parameter optimization**

- Swarnim Narayan, Chepuri Krishna, Varun Mishra, Abhinav Rai, Himanshu Rai, Chandrakant Bharti, Gursirat Singh, Ashish Gupta, and Nitinbalaji Singh in IEEE BigData 2020.

- **Sequence-aware Reinforcement Learning over Knowledge Graphs**
  - Ashish Gupta, Rishabh Mehrotra in RecSys REVEAL 2019.
- **Neural Attention Reader for Video Comprehension**
  - Ashish Gupta, Rishabh Mehrotra, Manish Gupta in KDD Deep Learning Day 2018.

PATENTS

- **Ultron-AutoMLv2: a distributed framework for efficient hyper-parameter optimization (HPO) of ML models**
  - Chepurishri Krishna, Amit Agarwal, Ashish Gupta, Swarnim Narayan, Himanshu Rai, Varun Mishra, Abhinav Rai, Chandrakant Bharti, Gursirat Singh and Nitinraj Balajisingh

BLOGS

- **An Introduction to Meta-Learning**
- **Introduction to Reinforcement Learning**

PROJECTS

Deep Recurrent Generative Decoder for Abstractive Text Summarization (EMNLP 2017)
Sequence to sequence oriented encoder decoder model with attention mechanism and variational auto encoders.

- Novel approach to text summarization with GRU and attention mechanism. Oct 2019 – Dec 2019

Hierarchical Attention Networks for Document Classification
Implementation of Hierarchical Attention Networks paper NAACL 2016.

- Movie reviews from IMDB dataset are used for prediction. Mar 2018 – Mar 2018

Image-based recommendations on Styles and Substitutes,
Guide:- Prof. Dinesh Babu Jayagopi

- Recommending apparels to users based on their choice and the complementary products.This work was done on a subset of Amazon dataset.
  Click here to checkout the video. Mar 2017 – May 2017

ACHIEVEMENTS / CO-CURRICULAR ACTIVITIES

- 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.
- Top 20%(Placed 303 out of 1571 teams) in Google QUEST Q&A Labeling - Improving automated understanding of complex question answer content.
- Top 3%(Placed 94 out of 4037 teams) in Quora Insincere Question Classificatiomn - To identify and flag insincere questions in Quora.
- 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.
- 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.
- Achieved AIR 56 in ISRO Scientist/SC exam(July‘16).
- Qualified GATE‘16 with 98.8 percentile(Feb‘16).

AWARDS & SCHOLARSHIPS

- Winner of AI Hackathon organized by Target HR Bangalore Aug 2018
- Dean’s List, Fall 2008 through Spring 2011, SRMCEM 2008 – 2011

PROFESSIONAL AFFILIATIONS & ACTIVITIES

Reviewer of Association for Computational Linguistics(ACL 2020) 2020
Natural Language Processing with Attention Models(Coursera) 2020 – Present
SIGIR Conference on Research and Development in Information Retrieval(SIGIR 2019) 2019
Reviewer of IR Journal: Learning from User Interactions 2019
Association for Computing Machinery 2017 – Present

SKILLS

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