Rohit Mujumdar

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Education

Georgia Institute of Technology, Atlanta, GA *Aug 2019 - Present*
Master of Science, Computer Science, Specialization - Machine Learning ***(GPA : 4.0/4.0)***
Coursework: NLP, Machine Learning, Deep Learning, Web Search Text Mining, Social Computing, Graduate Algorithms

Vishwakarma Institute of Technology, Pune, India *July 2013 - May 2017*
Bachelor of Technology, Computer Engineering ***(GPA : 9.47/10)***
Coursework: Data Structures, Database Systems, Operating Systems, Distributed Computing, Business Analytics

Technical Skills

Programming Languages: Python, Java, SQL
Libraries: Pandas, NumPy, Scikit-learn, NLTK, HuggingFace, Prophet, NetworkX, SQLAlchemy, Flask, Matplotlib, XGBoost
Frameworks/Tools : PyTorch, IBM Watson, Protege, LATEX, Git

Work Experience

IBM Research - ***Research Intern*** (Almaden Research Lab, CA) *June 2020 - Aug 2020*
- Developed time series model to forecast resolution time of tickets; over 80% accuracy for more than 230,000 tickets
- Formulated model contributed to cost savings of 30 million USD in production
- Communicated technical concepts to management & business stakeholders; worked with them to understand client needs
- First-authored a patent around employee-task assignment and reskilling; currently being filed at USPTO

Froot Research - ***Data Scientist*** (Pune, India) *Sept 2018 - May 2019*
- Developed NLP pipeline to automate Standard-Essential Patent determination; saving 5+ man hours
- Built an operations analytics engine for real-time categorization of incident tickets and prediction of trouble trends
- Formulated novel binning technique for k-means clustering in the analytics engine; delivered POC to client Atos
- Developed an emotion detection model for targeted advertising content (text); delivered POC to client (advertising firm)

HSBC Software Development India - ***Software Engineer*** (Pune, India) *Aug 2017 - Aug 2018*
- Built a Java application to interface with backend mainframe systems reducing database query operations time by 50%

Graduate Research

Design and Intelligence Lab, Georgia Tech ***(Prof. Ashok Goel)*** *Aug 2019 - Aug 2020*
- Experimented with transformer models to improve question classification of AI Teaching Assistant *Jill Watson (JW)*
- Achieved F1-score of 0.87 with the best performing model; performed qualitative analysis of classification results
- Automated the benchmarking process of *JW*'s performance; saving 4+ hours of evaluation time
- Created and annotated *JW* training questions; constructed the taxonomy and knowledge-base for *JW*

Academic Projects

Can Machines Detect if you are a Jerk? *Sept 2020 - Nov 2020*
- Fine-tuned BERT to assess if we can replicate the sentiments and biases shared by Redditors on the r/AITA subreddit
- Classified reddit posts as morally ethical/unethical; achieved best accuracy of of 64%

Do Scientific Ideas from more Prestigious Universities Spread Faster? *Sept 2020 - Nov 2020*
- Investigated the imbalance in spread of ideas across academic networks caused due to differences in academic prestige
- Formulated novel measures for the subjective concepts of institutional prestige & idea quality
- Simulated epidemiological models on citation network built from Microsoft Academic Graph to trace idea spread

Conference Paper Acceptance Prediction *Feb 2020 - April 2020*
- Performed novel feature engineering to assess what features of research papers drive their acceptability to conferences
- Implemented supervised learning models on AllenAI's PeerRead dataset; achieved best accuracy of 60%

Semantic Search Engine using a Dynamic Ontology *Jan 2016 - May 2017*
- Built search engine for government schools' e-learning platform; implemented dynamic science ontology as knowledge-base
- Developed algorithm to extract Entity-Relation-Entity triplets from web-scraped data and query into/from ontology
- Optimized ontology querying and storage by devising a similarity-scoring algorithm to compare similar Relations

Publications and Presentations

INFORMS, *A Heuristic Approach To Compute Ticket Resolution Time* **(Best Poster - Honorable Mention)** *Nov 2020*

Graduate Assistantships

Head Teaching Assistant, AI, Ethics & Society, (Prof. Ayanna Howard) *Jan 2020 - Present*
Teaching Assistant, Knowledge-Based AI, (Prof. Ashok Goel) *Aug 2019 - Dec 2019*