

Sanjana Garg

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Education

Georgia Institute of Technology Atlanta, MASTERS IN COMPUTER SCIENCE, 4.0/4.0

Aug 2019 - May 2021

SPECIALIZATION IN MACHINE LEARNING

Indian Institute of Technology Kanpur, BACHELORS IN COMPUTER SCIENCE AND ENGINEERING, 8.4/10.0

Jul 2013 - May 2017

MINOR IN LINGUISTIC THEORY

Work Experience

Bloomberg LP, ENGINEERING INTERN

May 2020 - Jul 2020

- Built a pipeline of NLP-based solutions to answer Excel related queries (around 8% of total client queries) on Terminal's HelpDesk.
- Finetuned BERT for identifying relevant queries and integrated a grammar-based parser that output an exact Excel formula.

Rivigo Services Pvt. Ltd., SOFTWARE DEVELOPMENT ENGINEER I & II

Jun 2017 - Jul 2019

- Revamped rule-based ETA prediction with AI-based, using ML models and honoring constraints, which served as Rivigo Maps.
- Decreased search latency by 10 times by developing a search engine leveraging Elasticsearch, powering search across all platforms.
- Designed and developed a scalable notification service supporting features like tracking, queuing, filtering and heavy attachments.

Kivi Capital, ALGORITHMIC TRADING INTERN

May 2016 - Jul 2016

- Designed and back-tested high-frequency pair trading strategies with time-adaptive approaches for equities.
- Researched on evolutionary algorithm approaches at Kivi for exploiting the imbalance in buy and sell volume for indexes.

Publication

Agent based simulation of the evolution of society as an alternate maximization problem

A. Sanyal, S. Garg, A. Unmesh, H. Karnick

2017 International Conference on Behavioral, Economic, Socio-cultural Computing (BESC), 2017

Key Projects

Analyzing drug-abuse discourse on Reddit, PROF. MUNMUN DE CHOUDHURY, SOCWEB LAB, GEORGIA TECH

Jan 2020 - Apr 2020

- Collaborated with Washington University School of Medicine for detecting varying levels of opioid misuse on fentanyl subreddit.
- Employed a bag of ML and NLP techniques for finding relevant posts, debiasing data and classifying posts and comments.

Weakly Supervised Text Classification for Short Text, DEEP LEARNING, GEORGIA TECH

Mar 2020 - Apr 2020

- Critically analyzed one of the founding papers of weakly supervised neural text classification for its effectiveness on short text.
- Evaluated the paper along with a mix of other approaches on a Twitter dataset for abusive speech detection and noted its shortcomings like overlapping keywords, class imbalance and number of hyperparameters for fine tuning.

Real-time monitoring of political events on Twitter, SOCIAL COMPUTING, GEORGIA TECH

Sept 2019 - Nov 2019

- Designed an online graph-based algorithm to filter important incidents from thousands of tweets for the election monitoring teams.
- Achieved a data reduction of 30% for 325,000 tweets with high recall, using concepts from graph theory, probability, and NLP.

Exploratory Video Analytics at Scale, PROF. JOY ARULRAJ, DATABASE LAB, GEORGIA TECH

Aug 2019 - Nov 2019

- Researched on deep learning based video database management systems for accelerating inference queries on videos.
- Actively contributed to different components of the database system EVA, including catalog, storage, executor and documentation.

Graph Visualization Tool, DATABASE SYSTEMS, IIT KANPUR

Jan 2016 - April 2016

- Built an interactive tool using graph clustering to visualise large and complex graphs so that the user is not overwhelmed.
- Leveraged PostgreSQL and Python's networkx to efficiently implement Power Iteration Clustering algorithm.

Skills

Programming Python, Java, C, C++, Assembly(x86, MIPS), Shell

Databases & Frameworks MySQL, PostgreSQL, MongoDB, SQLAlchemy, Elasticsearch, Spring, Hiberante

ML/DL and Data Science Toolkit scikit-Learn, pyTorch, spacy, nltk, pandas, OpenCV

Relevant Courses

AI Deep Learning, Computer Vision, Social Computing, ML for Trading, Machine Learning, Multi-Agent Systems

Systems Operating Systems, Database Systems, Computer Architecture, Security, Compilers, Software Engineering

Theory Data Structures and Algorithms, Advanced Algorithms, Theory of Computation, Discrete Mathematics

Mentorship and Leadership

- Graduate Teaching Assistant - Computer Vision (Spring 2020), Computers and Society (Fall 2020)
- Coordinator of Association for Computing Activities at IIT Kanpur