

EDUCATION

New York University – Courant

Master of Science in Computer Science (MSCS)

Relevant Coursework: Fundamental Algorithms, Programming Languages, Artificial Intelligence

New York, US

Aug 2023 - May 2025

Jaypee Institute of Information Technology

B.Tech. with Honours in Computer Science & Engineering, GPA: 9.2/10

Relevant Coursework: Machine Learning and NLP, Deep Learning, Fundamentals of ML, ML and Big Data

Uttar Pradesh, India

Jul 2018 - Jun 2022

WORK EXPERIENCE

AXA XL

Senior Analyst

Gurgaon, India

Aug 2022 - Jul 2023

- Applied NLP to gather insights from property risk engineering surveys to turn unstructured formats into structured resources
- Achievement:** Increased risk assessment efficiency (>50%) speeding up asset selection & cutting processing time to deliver ~\$700 Mn. business impact; certificate of honor by Global Operations & Country Head for performance in Q4 2022

Actuarial Trainee

Feb 2022 - Jul 2022

- Orchestrated the implementation of automation tools in collaboration with the Actuarial department, resulting in a 50% increase in throughput and ensuring 95% reliability in forecasting outputs.
- Developed 15+ innovation templates for reporting and analytics to be housed under SPARTA (an insurance reserving tool)

AMTDC (IIT Madras – Government of India)

Research Project Intern

Chennai, India

Sep 2021 - Jul 2022

- Created GraphDBs incorporating different tool characteristics; Devised an ontological structure to connect their properties
- Deployed Bidirectional Encoder Representation for Transformers and graph CNNs for NLU based query processing and devised a QA system to address user queries regarding tool selection in the heavy manufacturing industry
- Achievement:** Accomplished a 25% reduction in response time and improved user satisfaction.

MITACS GLOBALINK – Toronto Metropolitan University, Canada

Researcher

Remote

Jun 2021 - Jan 2022

- Detected fake reviews in E-commerce industry using ensemble methods and n-gram modelling under Dr. Rasha Kashef
- Achievement:** Published paper & awarded 1.2K CAD scholarship with 15K CAD fellowship for pursuing higher studies in Canada

Takshila Learning

Research and Development Engineer

New Delhi, India

Jan 2020 - May 2021

- Created a ML-based Learning Management System solution and 15+ Python courses catering towards K-12 audience
- Coordinated with the operations, product, sales, and marketing stakeholders for efficient deployment of the LMS module
- Achievement:** Growth of 50% y-o-y in website traffic with higher leads leading to increase in sales ~30% for K-12 products

PUBLICATIONS

- R. Singhal, R.Kashef, “A Weighted Stacking Ensemble Model With Sampling for Fake Reviews Detection,” IEEE Transactions on Computational Social Systems, pp. 1–17, May. 2023. [\[DOI\]](#)
- R. Singhal, S. Srivatsan, and P. Panda, “Classification of Music Genres using Feature Selection and Hyperparameter Tuning,” Journal of Artificial Intelligence and Capsule Networks, vol. 4, no. 3, pp. 167–178, Aug. 2022. [\[DOI\]](#)
- R. Singhal, “Enhancing Health Monitoring using Efficient Hyperparameter Optimization,” Journal of Artificial Intelligence and Capsule Networks, vol. 4, no. 4, pp. 274–289, Nov. 2022. [\[DOI\]](#)
- R. Singhal, S. Srivatsan, and P. Panda, “A Novel Multimodal Method for Depression Identification,” Journal of Trends in Computer Science and Smart Technology, vol. 4, no. 4, pp. 215–225, Nov. 2022. [\[DOI\]](#)
- R. Singhal, “Early Detection of Dementia using Machine Learning Techniques,” Journal of IMS Group, vol. 19, no. 01, 2022. [\[DOI\]](#)

ACADEMIC PROJECTS

- Healthcare monitoring system based on Deep Learning:** Trained deep neural networks for action identification in patients; implemented 3D Resnet architectures (Resnet50, Resnet101, Resnet101) & 3D CNNs (MobileNetV2, SqueezeNetV2, ShuffleNetV2)
- Transformation of Natural Language Questions to SQL Queries:** Prepared SQL queries from given natural language text using deep learning & employed an optimized RoBERTa model to generate feature embeddings and SQL column predictors
- Detecting Malware in Portable Executable Files:** Classified malware and legitimate .exe files using properties of the PE header files through machine learning techniques
- Recognizing Human Activities using Smartphone Sensors:** Classified human activities using sensors fitted in Smartphones – Accelerometers and Gyrometers

ACADEMIC ACHIEVEMENTS

- Best Paper Awards at NCETADI'22 and ICTSEADC'22
- Undergraduate Merit List Certificate (Rank 7 out of 493 students in the CSE Batch)

EXTRA-CURRICULAR ACTIVITIES

- As a member of the **inclusion and diversity committee at AXA XL**, organized DEI initiatives via activities for cultural and racial equity, pride events for LGBTQ+ community, mental-health awareness drives, and NGO connects for disability candidates
- Contributed for **GirlsScript Winter of Contributing**, a non-profit organization for community service in the domains of Machine Learning, Data Science, & Python
- Certified by **State-Resource Center** for SAAKSHAR Bharat Mission for contribution towards literacy of two children

SKILLS

- Languages:** Python, R, SAS, C++, Java, MATLAB
- Tools/Frameworks:** TensorFlow, NumPy, SciPy, Pandas, Matplotlib, Scikit-Learn, PyTorch, Nltk, Keras, Amazon Web Services, Azure ML Studio, FreeSurfer, Vena, Hadoop, Apache Spark, PowerBI, SQL, Plotly, Tableau, VBA, CUDA, OpenMP, MPI, Neo4j, Git