Los Angeles, CA 90007 | 717-829-1441 | trish11953@gmail.com | https://github.com/trish11953

Trisha Mandal

Education

University of Southern California 05/2023

Master of Science (MS) in **Computer Science** (Focus: *Artificial Intelligence*) **3.54/4.0**
Coursework: Artificial Intelligence; Algorithms; Machine Learning for Data Science; Natural Language Processing; Databases; Deep Learning; Information Retrieval

Pennsylvania State University 05/2021

Bachelor of Science (BS) in **Computer Science**, Minor in **Mathematics** **3.46/4.0**
4x Dean's List | Capstone Project at *Volvo Trucks* | Penn State *Model United Nations* | Penn State *ACM*
Coursework: Data Structures & Algorithms; Object-Oriented Programming; Operating Systems; Theory of Computation; Databases; Systems Programming; Statistics; Software Design; Discrete Mathematics; Entrepreneurship and Innovation

Experience

USC Marshall School of Business, Marketing: Research Assistant | Los Angeles, CA 10/2022 - Present

- Spearheading NLP research that performs sentiment analysis and topic modeling using advanced deep learning models and techniques to extract valuable insights from customer reviews.

Hornbill Labs: Research Intern | Bangalore, India 09/2021 – 11/2021

- Conducted research on how Machine Learning and Data Science can improve Supply Chain Management.
- Utilized SAP Enterprise Resource Planning and Python to integrate Machine Learning and ETL pipelines in real-time projects.

Lexalytics: Software Engineer Intern | Amherst, MA 06/2020 - 08/2020

- Rectified anomalies in the output for Machine Learning model used for converting PDF documents to JSON output by refactoring 70 lines of technical debt for the purpose of Natural Language Processing.
- Leveraged Docker containers to increase performance and portability of applications.

Lexalytics: Software Engineer Intern | Boston, MA 06/2019 - 08/2019

- Developed documentation for usage of Lexalytics REST APIs on web using Java Spring Framework and Swagger UI/UX properties.
- Achieved a 7% higher efficiency in the data graphs created by the Lexalytics data analytics platform by conducting unit testing using Python programming.
- Performed Named Entity Extraction for over 700 financial documents for NLP and data analytics prospects.

Academic Projects

Deep Learning Project Spring 2023

Performing an ablation study to investigate how multimodal models performing unimodal tasks can improve the visual question answering (VQA) results by replacing baseline text encoder BERT to VisualBERT and testing on various VQA datasets.

Natural Language Processing Project Fall 2022

Conducted semester-long team academic research on knowledge graphs and fusion-based transformer approaches for multi-hop question answering to replace the simple linear-sum baseline model with complex fusion techniques for better performance.

Capstone Project sponsored by Volvo Trucks Spring 2021

Conducted testing for the Pneumatic 1D Simulation for Braking systems using GT Suite, Python, Power BI, and SharePoint by working with a team of four students from Penn State with diversified engineering skills.

Skills

Programming Languages: Python, C/C++, Java, SQL, HTML, MATLAB, Racket

Tools and Frameworks: Tensorflow, PyTorch, NetworkX, Scrapy, Pandas, NumPy, Scikit-learn, Keras, Matplotlib, Gensim, Java Spring, Git, Linux, Power BI, MySQL, JetBrains and Eclipse IDEs, Jupyter Notebook, Visual Studio, Microsoft Office, Docker, Google Cloud Platform, Azure Data Factory, Google BigQuery

Soft Skills: Technical Writing, Verbal and Written Communication skills, Leadership, Collaboration, Detail-Oriented