

## 🎓 EDUCATION

- **Stony Brook University** New York, U.S.A.  
*Master of Science in Computer Science; GPA: 3.93* 2019 – 2021
  - **Courses:** Analysis of Algorithms, Data Science, Natural Language Processing, Probability & Statistics
  - **Teaching Assistant:** CSE 354 - Natural Language Processing, CSE 214 - Data Structures
- **University of Mumbai** Mumbai, India  
*Bachelor of Engineering in Information Technology; First Class with Distinction (72.9%)* 2011 – 2015
  - **Relevant Courses:** Data Structures and Algorithms, Artificial Intelligence, Discrete Mathematics

## 🏠 PROJECTS

- **Toxic Online Comments:** Applied Deep Learning and Transfer learning to identify Toxicity in Wikipedia comments. Evaluated and compared the performance of sequential and state-of-the-art BERT models on the task.
- **Chess Player Ratings:** A regression based model to predict the Elo rating of a player from the moves sequences.
- **Relationship Extraction:** A Bi-GRU model with Attention and dropout to evaluate its performance on the SemEval-2010 Task 8 dataset.
- **Sentence Vector Representations:** Implementation of Deep Averaging Network(DAN) and the Gated Recurrent Unit(GRU) Sequence models. The results are then evaluated on IMDB movie reviews for sentiment classification.
- **Skip-gram based Word2Vec:** Word2Vec implementation with analysis of cross entropy loss v/s noise contrastive estimation as the objective function. Evaluation is done on the semantic task of word analogies.
- **Physual(Capstone):** A text to scene generation system to visualize Mechanics word problems based on StanfordCore NLP, Java 3D and Blender Models.
- **Natural Language Toolkit Misc.:** Miscellaneous projects including 'News Article Classifier' and 'Similar Document Clustering System' based on tf-idf and page rank algorithms..
- **Machine Learning:** 'Products Review Sentiments', 'Songs Recommendation', and 'Handwritten Digit Recognizer'.

## ` PUBLICATION(S)

- **Visualization of Mechanics Problems based on Natural Language Processing:** Summarized the research efforts and results of the aforementioned Capstone Project. (*International Journal of Computer Applications - April, 2015*)

## 🏢 EXPERIENCE

- **J.P. Morgan Chase & Co.** Mumbai, India  
*Senior Application Developer* Feb 2018 – Aug 2019
  - **NLP Query Service:** An interactive system to resolve user queries that uses a model trained on the CRF classifier from StanfordCore NLP and returns the nearest possible solution from an existing knowledge base.
  - **Trader Analytics:** Implemented functionalities such as absolute and percent variation, market share and standard deviation of stock prices based on historic data to assist traders in making better decisions.
  - **Real-Time Pricing:** Developed a component which approximates market risk in real-time from live underlying prices; and publishes the results for consumption. It helped retire a legacy system thus saving the firm ~\$250k.

*Application Developer**July 2015 – Jan 2018*

- **Risk Management System:** Worked extensively on the core app used by traders for visualizing and hedging risk;
  1. Optimized the Positions feed using LMax Disruptor, a low latency queue library for upto 20% faster processing.
  2. Process startup time improvement by 50% through the use of concurrency and Spring annotations.
- **Market Data Source:** Framework for validating the functionality of the critical market data publisher and reporting results using Java MXBeans and Apache POI. Reduced the manual testing effort by 90%.
- **Quick-Deploy:** Streamlined the deployment, startup and health check of application modules in production.
- **MongoDB High availability:** Mechanism to switch from replica set to standalone configuration on the fly in case of a data center failure. Ensured business continuity during critical failures and reduced operational risk.

## ⚙️ TECHNICAL SKILLS

- **Languages:** Java, Python, Unix Shell Scripting, SQL, MATLAB
- **Frameworks:** Tensorflow, NumPy, Scikit-Learn, Pandas, Keras, Matplotlib, Spring, Swagger
- **Databases:** Sybase ASE, MongoDB, MySQL