

VIKRAM J. SHENOY

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EDUCATION

NORTHEASTERN UNIVERSITY, Boston, MA, USA

September 2019 - May 2021 (Exp.)

- Master of Science, Computer Science

MUMBAI UNIVERSITY, Thadomal Shahani Engineering College, Mumbai, India

July 2014 – May 2018

- Bachelor of Engineering in Computer Engineering: **GPA: 3.63/4.0**

WORK EXPERIENCE

Technical Consultant, Annadhan Welfare Organization (Mumbai, IN)

Jan 2019 – Present

- Working as a pro bono technical consultant towards the design and development of the official Annadhan application in collaboration with J.P. Morgan Chase & Co.
- Created a work flow for the application's functionalities in accordance to the organization's day-to-day operations.
- Designed a sleek, consistent and user friendly interface for the application.

Machine Learning Research Intern, University of Groningen (Groningen, NL)

Aug 2018 – Oct 2018

- Performed an extensive analysis of the proposed feature selection algorithm as compared to existing feature selection methods such as Fisher Score, Generalized Matrix Learning Vector Quantization (GMLVQ), ReliefF and Boruta.
- Developed a new weighting scheme for the algorithm that considerably improved its performance for larger datasets.
- Gained extensive knowledge about ensemble methods such as Random Forests, AdaBoost, and XGBoost.
- Working towards a journal paper that will be published along with the proposed algorithm as a software package.

Software Engineering Intern, Vroom Cars (Irvine, CA, USA)

Feb 2017 – Aug 2017

- Researched On-board Diagnostics Parameter IDs (OBD – II PIDS) - codes used to request data from a vehicle.
- Implemented an algorithm to extract and transform raw data received through a mobile application into structured format.
- Developed an automated software to convert the structured data from a local database into multiple user-friendly graphs.

PROJECTS

Music Recommendation using Deep Learning (Keras and Google Colab)

May 2019

- Preprocessed the data by generating mel-spectrograms of audio files from the Free Music Archive dataset.
- Designed and trained a Convolutional Neural Network on Google Colab using slices of these mel-spectrograms for classification.
- Predicted latent feature vectors using the trained network and established a similarity score between one song (anchor) and the rest of the songs in the test set using cosine similarity.

Digit Generation using Wasserstein Generative Adversarial Networks (Keras and Google Colab)

April 2019

- Trained a Wasserstein GAN on the MNIST dataset using an estimate of the Wasserstein metric as the cost function.
- Generated digits by randomly sampling through a noise distribution and passing them through the trained generator network.

Twitter Sentiment Analysis using Recurrent Neural Networks (Keras and Google Colab)

March 2019

- Preprocessed over 1.6 million positive and negative tweets from Stanford's Sentiment140 dataset.
- Trained a Recurrent Neural Network with Long Short-Term Memory units to analyze the sentiment of these tweets.
- Achieved an accuracy of 84.57 % on the test set and used the trained network to yield a degree of sentiment on user entered text.

Neural Style Transfer with Convolutional Neural Networks (Keras and TensorFlow)

Feb 2019

- Transferred the artistic style of one image onto another image using a pre-trained VGG19 network with Imagenet weights.
- Generated the final image by selecting intermediate layers in the network and reducing the overall loss.

Games using Artificial Intelligence, Undergraduate Final Year Project

May 2018

- Developed an AI for chess and a famous tile puzzle game, 2048, using fundamental aspects of Game Theory.
- The AI for Chess is based on the Minimax algorithm with alpha-beta pruning and the AI for 2048 uses the Expectimax algorithm.

Blue Scroll, Android Application

May 2017

- Developed a real-time android news aggregation application with the help of a JSON API for retrieving the latest news articles.
- Built an algorithm that parses and retrieves data from different news streams in under one second using JSON and Java.

TECHNICAL SKILLS

- **Programming Languages:** Python (Expert), Java (Proficient), C (Familiar).
- **Frameworks and tools:** Keras, TensorFlow, Plotly, Numpy, Scikit-Learn, Matplotlib, Pandas, Google Colab, Android Studio.
- **Data-oriented Languages:** SQL, JSON, XML.

ACHIEVEMENTS

TSEC Leadership Award

March 2018

- Awarded the TSEC Leadership Award for co-founding and heading the Rotaract Club of TSEC in its inaugural year.