

Vijay Yadav

<https://www.linkedin.com/in/vijay-yadav-06> | vy386@nyu.edu | (929) 372-6562 | New York, NY

EDUCATION

New York University, NY

Master of Science in Computer Science

May 2019

GPA: 3.5/4

Maharshi Dayanand University, Haryana, India

Bachelor of Technology, Computer Science & Engineering

May 2013

GPA: 3.65/4

SKILLS

Python, Machine Learning, Deep Learning, NLP, Big Data (Spark RDD, Map-Reduce, Pig, PySpark, HDFS, Tableau, Docker), OSGI, Web Services, XML, Adobe CQ5, JavaScript, JQuery, Angular JS, SQL, HTML, CSS, NodeJS, Java, J2EE

Data Science TensorFlow, Keras, OpenCV, FFmpeg, NLTK, Pandas, Numpy

RESEARCH EXPERIENCE

Research Assistant | Control and Networks Lab, New York University, NY

Sep 2017- Present

- Using Microsoft Kinect to track skeleton movement through real-time human skeleton motion and depth image processing.
- Working on **HTC Vive** and using **C#** for writing scripts and **Unity** to build different experiment setups.
- Collecting and visualizing human subject data and comparing with Adaptive Dynamic Programming (**ADP**) simulations for analysis.

Research Assistant (Machine Learning/Deep Learning) | NYU Langone Medical Research Center, NY

Feb 2018 - Present

Project: Deep Visualization on Traumatic Clinical Disorder (Python, TensorFlow, Keras)

- Developing a system to help pathologist visualize **Post Traumatic Symptoms** across stages.
- Created **AU predictor** which predicts 'Action Unit' frame by frame on video samples using CNN with an accuracy of ~75% equivalent to human FACS coders. (1 min of video required 1 hour of effort by human coders).
- Preprocessed temperature of human subject in MRI images to generate labels specific to each image
- Created **Facial Expression Dataset** (included videos of WTC 9/11attack, PURL1, PURL2, PURL movie recording & FACS training videos).
- Working on **Facial Expression Recognition** using CNN for predicting expressions based on FACS coding on **videos** with accuracy ~88%.

PROFESSIONAL EXPERIENCE

Nomura, New York, USA | Data Science Intern

June 2018 - Present

Project: CHATBOT (Personal Assistant)

- Created end to end application; **Deep learning & NLP** based inference **L3 Support System** for Data Access Layer (DAL) team.
- Built **Seq2Seq RNN with LSTM** to train general chat corpus and used **Neural Network** for text category classification (**91% accuracy**).
- Wrote a wrapper using **Symphony REST APIs** to integrate machine learning model with Symphony chatroom and created **web services** to enable communication with backend system (Splunk) and return relevant response to user's query.
- Integrated it with EOS for deployment and with Jenkins for Continuous Integration.

Project: Portfolio recommender system for high net-worth clients

- Analyzed temporal, sequential, and financial details of the client's past transactions to extract features.
- Trained a client specific **Random Forest model (F1- score: 0.985)** to recommend instrument for future investment.

Project: Sparkube

- Wrote a wrapper in **Scala** to directly connect Hive Metastores with sparkube package; enhancing performance by reducing 4 layers.
- Wrote a wrapper on top of client library to connect Jupyter Hub SQL interpreter with Sparkube package to create multidimensional cubes to analyze/visualize **Apache Spark** dataset.

Optum Technology, Gurgaon, India | Application Developer

June 2016-Aug 2017

- Developed new templates, workflow components, enhancements and fixed defects for project requirements; new functionalities like 'click to chat' and 'click to call' for customers and made portal accessible to blind and deaf people using bootstrap HTML design.

Accenture, Gurgaon, India | Software Engineer

Feb 2015-June 2016

- Created framework like Single JS implementation, Pre-fetch and wrote a wrapper on Tree Executor for performance enhancement of **MY-APP** project (**T-Mobile mobile app**) and developed **Rest API'S** through **OSGI** and consumed in front end using **Angular JS**

United Health Group, Gurgaon, India | Application Developer

Aug 2013-Feb 2015

- Gathered requirements from product owner and developed user stories. Worked on **508 Compliance**, implemented soap based secure web services; created Health planner app (CQ5) for tracking customers health.

PROJECTS

Airbnb Destination Country Prediction – Data Science Project, NYU

- Analyzed data and used techniques like data imputation to balance the data and visualized raw data and predicted destination country for new users using feature engineering and modeling with machine learning algorithms.

NYC Crime Analysis - Big Data Analytics Project, NYU

- A Carried out exploratory analysis on last 10 years of NYC crime raw data using feature extraction and visualized it for proving hypothesis by leveraging Big Data technologies like PySpark RDD & Spark SQL, Python and Hadoop.