VIKRAM SUNIL BAJAJ

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EDUCATION

New York University Tandon School of Engineering | *Master of Science in Computer Science (**GPA:** 3.93/4)* **Brooklyn, NY** | *May 2019*
- **Relevant Coursework**: Machine Learning, Data Science, Big Data, Info Visualization, Computer Vision, Cloud Computing, Databases, Algorithms
- **Honors**: Awarded an **Academic Achievement Award** and a **merit-based graduate scholarship**

Gandhi Institute of Technology and Management | *B.Tech. in Computer Science & Engineering (**GPA:** 3.95/4)* **Hyderabad, India** | *Apr 2017*
- **Relevant Coursework**: Artificial Intelligence & Machine Learning, Data Mining, Cloud Computing, Probability & Statistics, Algorithms

SKILLS

- **Programming Languages**: **Proficient**: Python, SQL, Java, MATLAB; **Working Knowledge**: R, D3.js, Node.js; **Familiar**: C, C++
- **Data Science Libraries (Python)**: scikit-learn, nltk, gensim, pandas, numpy, matplotlib, plotly Dash
- **Tools/Technologies**: Data Science, Machine Learning, Deep Learning (PyTorch, Keras-TensorFlow), Computer Vision, NLP, Tableau, Big Data (Hadoop, PySpark), AWS (Lambda, Lex, Amazon ML, Elasticsearch, DynamoDB), Flask, React, Spring Boot, LaTeX

EXPERIENCE

Deutsche Bank Corporate Bank | *Associate Engineer (Machine Learning Engineering)* **New York, NY** | *Feb 2020 - Present*
- Driving the development of an OCR service from scratch (in **Python**); a high-impact revenue generating project with significant reduction in turnaround time and manual effort, in the Trade Finance & Lending team
- Implemented **Machine Learning**-aided filter selection and smart template matching for automated pre-processing of documents, along with NLP-backed post-processing techniques to further improve OCR quality and minimize human intervention

Deutsche Bank Corporate Bank | *Software Engineer (Data Engineering)* **New York, NY** | *Aug 2019 - Feb 2020*
- Developed a generic **database to database transfer service**, using **Java Spring Boot** and **SQL Server**, and **Kafka** for exception logging
- Enhanced a **data reconciliation service**, allowing it to support multiple recon types (file-file, file-database and database-database)
- Built an interactive dashboard, using **React**, to correlate incoming payments from various sources, while on the Trust & Agency Services team

Curai | *Software Engineering Intern (Machine Learning)* **Palo Alto, CA** | *Feb 2019 - Apr 2019*
- Built a “Suggest Diagnoses” feature with **Deep Learning**-based dermatological disease diagnosis in **First Opinion** to aid doctors with diagnosis
- Implemented a “Next Question” flow with Deep Learning-based image differential as a prior, in concert with an Expert System
- Trained a Rash vs. Neoplasm classifier (using **PyTorch**) that achieved 90% accuracy on dermatologist-annotated test images, to enable triaging
- Developed a reusable image annotation tool and a **React** UI to demonstrate various Deep Learning models for dermatological disease diagnosis

Deutsche Bank Chief Data Office | *Technology Analyst Intern* **New York, NY** | *Jun 2018 - Aug 2018*
- Applied **Natural Language Processing** in **Python** to map attributes based on similarities in their descriptions, toward automating data lineage
- Performed **sentiment analysis** of news articles to analyze the correlation of sentiment with stock trend; built a **Flask** web app to demonstrate
- Reviewed the ML capabilities of DgSecure for the detection of personally identifiable information in unstructured data, toward GDPR compliance

New York University | *Graduate Teaching Assistant and Grading Assistant* **New York, NY** | *Nov 2017 - May 2019*
- *TA* for **Information Visualization** in Spring 2019, **Deep Learning** in Spring 2018, **Big Data Analytics** in Fall 2017 at NYU Tandon. *GA* for **Deep Learning** in Spring 2018 (under Prof. Yann LeCun), **Intro to Machine Learning** and **Programming for Data Science** in Fall 2018 at NYU CDS

Indian Institute of Technology (IIT Madras) Visualization and Perception Lab | *Summer Fellowship Intern* **Chennai, India** | *May 2016 - Jul 2016*
- Implemented a Content-Based Image Retrieval (CBIR) system in **MATLAB**, using **Computer Vision** and **Machine Learning** techniques

PROJECTS

Firewatch: Visualizing U.S. Wildfire Data | D3.js, Tableau *Oct 2018 - Dec 2018*
- Used D3.js and Tableau to develop interactive visualizations (choropleth maps, bar charts and line charts) for U.S. wildfire data

Viki: A Web Search Engine | Python *Oct 2018 - Dec 2018*
- Built a web search engine, comprising of an NLP-driven focused crawler, a compressed index and a conjunctive/disjunctive query processor
- Also performed a **comprehensive survey** of various query-independent and query-dependent search result snippet generation techniques

MusiCloud: A Cloud-Based Music and Concert Recommendation System | AWS Services, Python, Node.js *Mar 2018 - May 2018*
- Led a team to develop a conversational bot that recommends music and upcoming concerts, using **AWS Services** and the Songkick API

Mask-it: Applying Snapchat-like Filters on Face Images | Python *Mar 2018 - May 2018*
- Implemented the overlaying of Snapchat-like filters on face images: face detection, landmark detection, mask morphing and alpha blending

NYU Network: A University Social Network | MySQL, PHP, HTML, CSS, JavaScript *Mar 2018 - May 2018*
- Created a social network prototype; features: sending friend requests, creating posts, likes, dislikes, updating user profile, viewing activity feed

Global Temperature Change Prediction | Python *Oct 2017 - Dec 2017*
- Predicted the temperature of a given city across a specific time period, using an ARIMA model for **time series forecasting**

Climate Change and its Impact on Health | PySpark, Spark MLlib, Tableau *Oct 2017 - Dec 2017*
- Leveraged Big Data tools to analyze climate change and pollution data, and study their impact on human health

PUBLICATIONS

- Santosh, D. Teja, Vikram Sunil Bajaj, and Varun Sunil Bajaj. “Development of a Micro Hindi Opinion WordNet and Aligning with HOWN Ontology for Automatic Recognition of Opinion Words from Hindi Documents.” *International Conference on Next Generation Computing Technologies*. Springer, Singapore, 2017

CERTIFICATIONS

- **Deep Learning Specialization** certificate by Andrew Ng (deeplearning.ai) on Coursera *Sep 2018*
- **Introduction to Corporate Finance** certificate by the Wharton School, University of Pennsylvania on Coursera *May 2018*
- **Machine Learning** certificate by Stanford University on Coursera *Apr 2016*