

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 | Aug 2019 - Feb 2020**
• 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 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 | Feb 2020 - Present**
• 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**