

VEDANT SAHAI

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EXPERIENCE

JP Morgan Chase & Co.

Jun 2023 – Aug 2023

AI/ML Summer Associate

Wilmington, DE

- Increased the Transaction Detection Rate gain by 100-150 basis points by implementing the Online ML XGBoost algorithm for the Transaction Risk model (TRS).
- Attained 90% accuracy by programming a TabNet-based Deep Neural Network as a challenger for the TRS XGBoost model.
- Ensured 95% code coverage by implementing a PyTest-based testing framework for the TRS Feature Engineering codebase.
- Created API documentation for the TRS codebase using Sphinx, enhancing code maintainability and ease of use for developers.

Plexflo

Oct 2021 – Jul 2022

ML Engineer

Mumbai, India

- Developed Evidence, a Meter Data Management & Analytics (MDMS) software with a latency of less than 90ms, by leveraging smart meter data streams, powered by AWS, Apache Flink, and a custom ML model.
- Achieved an F1 score of 85% for Plexflo AI, an open-source Python library by leveraging a Variational Autoencoder for Non-Intrusive Load Monitoring.
- Scaled a FastAPI + AWS Timestream backend to support up to 20,000 IoT devices for MDMS over Grafana.
- Enhanced rooftop solar assessment accuracy by 30%, using Mask R-CNN and Geo-Spatial Image Processing techniques.
- Resulted in a 30% reduction in time in the CI/CD of Docker containers over AWS EC2 through GitHub workflows.

Sync Energy Inc.

Jul 2020 – Sept 2021

ML Research Intern

Mumbai, India

- Optimized the power outage extraction, resulting in a 40% faster response, by deploying an AWS Lambda-Python-REST API.
- Improved accuracy to 83% in estimating the locations of utility poles from Google Street View images by employing Mask R-CNN and Image Processing.
- Boosted research capabilities by generating Neo4J-based knowledge graphs from research papers on wildfires and their effects.

Mumbai International Airport Ltd.

Jun 2019 – Jul 2019

Software Development Intern

Mumbai, India

- Augmented system efficiency by 10% by unifying the Airside Safety Management Application (AngularJS and Microsoft SQL Server framework system) with the Incident Monitoring System (Microsoft SQL Server database and .NET system).
- Programmed Python-Shell script to establish a communication link between the ATS and the Flight Feed Server as a backup.

TECHNICAL SKILLS

Languages: Python, C, JavaScript, Java, HTML5/CSS3, LaTeX

ML Frameworks: PyTorch, Keras, TensorFlow, Rasa, Scikit, XGBoost, HuggingFace, NLTK, Spacy

Databases: MySQL, PostgreSQL, MongoDB, Neo4J

Cloud: Amazon Web Services [Ec2, S3, Lambda, API Gateway, Sagemaker, IAM]

Technologies: Django, React.JS, Flask, FastAPI, PyTest, Elasticsearch, Git, Docker, PySpark, Grafana, Sphinx

EDUCATION

The Pennsylvania State University

May 2024

Master of Science in Computer Science & Engineering - **GPA: 3.75 / 4.00**

University Park, PA

- Teaching Assistant:** CMPSC 131, 132: Computation & Data Structures & CMPSC 431W: Database Management Systems
- Relevant Coursework:** Computer Vision, Operating Systems, Data Structures & Algorithms, NLP, Intro to Deep Learning, Machine Learning and Algorithmic AI, Vision & Language, Computer Security, Topics in Computer Architecture

University of Mumbai

May 2021

Bachelor of Engineering in Computer Engineering - **CGPA: 9.58/10.0**

Mumbai, India

PROJECTS

Datascertus

Mar 2022

ReactJS, AWS APIs, Python, Docker, AWS ELB, AWS Lambda, DynamoDB, Scikit, RASA, PyTorch, Keras

- Trained a BERT summarization model to summarize updates on disaster information approximately accurately. 75% ROGUE-L.
- Reduced update frequency by over 50% by developing a pipeline using Lambda, Selenium, and the BERT model to track natural calamities.
- Made data processing 10% faster by integrating data pipelines using Lambda, S3, and API Gateway-based trigger events.

Conversational AI for Secure Healthcare Assistance

May 2021

Docker, Node.JS, MongoDB, RASA, Blockchain, Python, Express.JS, jQuery, AJAX, Vault, Nginx

- Handled over 10,000 EHR records concurrently by architecting a Docker-NodeJS-MongoDB-Vault-based software.
- Attained the intent prediction confidence up to 95% by developing and integrating a RASA-powered therapy chatbot,
- Integrated the BigchainDB-IPFS blockchain database with the RASA for behavior analysis and secure medical record storage Inc.

PUBLICATIONS

- Vedant Sahai et al. "Leveraging Deep Learning and IoT for Monitoring COVID-19 Safety Guidelines Within College Campus." (2020) Advanced Computing. IACC 2020. Communications in Computer and Information Science, vol 1367. Springer, Singapore.