# VEDANT SAHAI

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## EXPERIENCE

**JP Morgan Chase & Co.**                                                    Jun 2023 – Aug 2023
*AI/ML Summer Associate*                                                     *Wilmington, DE*
- Achieved a significant Transaction Detection Rate gain of approximately 100-150 basis points by implementing a real-time recalibration system using 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 90% code coverage by implementing a robust PyTest-based testing framework to validate the Transaction Risk Modeling Team's entire Feature Engineering codebase.

**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 engineering a solution that leverages ITRON, Sensus Xylem, and Siemens meter data streams, powered by plug-and-play AI algorithms.
- Delivered an AI open-source library called Plexflo for non-invasive load monitoring (NILM), achieving an F1 score of 85% by implementing a Time-series Segmentation model.
- Ensured SOC2 compliance and improved rooftop solar assessment accuracy by 30% by creating a Rooftop Solar Assessment Flask API, employing Mask R-CNN Rooftop Segmentation and Geo-Spatial Image Processing techniques.

**Sync Energy Inc.**                                                          Jul 2020 – Sept 2021
*ML Researcher Intern*                                                        *Mumbai, India*
- Optimized the power outage statistics extraction process, resulting in a 40% faster response time for outage analysis and resolution, by developing and deploying an AWS Lambda-Python-based Geo-Coordinates Power Outage REST API.
- Improved accuracy by up to 83% in identifying and estimating the locations of utility poles with cross-arms from Google Street View images by utilizing Mask R-CNN to enhance infrastructure assessment.
- Enhanced 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*
- Increased 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, HugginFace, 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

## 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

**Datacertus** 🔗                                                            Mar 2022
*Reacts.JS, AWS APIs, Python, Docker, AWS ELB, AWS Lambda, DynamoDB, Scikit, RASA, PyTorch, Keras*
- Built a full-service, low code serverless React. JS-AWS-based Data Science platform to meet every B2B need.
- Boosted model performance by 10% by training ML models leveraging PyTorch and TensorFlow and integrated IntellifaceTM interfaces for enhanced workflow efficiency, leading to a 30% decrease in training time.
- 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 electronic healthcare records concurrently by architecting a Docker-NodeJS-MongoDB-Vault-based software for tracking patients' records.
- Increased the intent prediction confidence up to 95% by developing and integrating a RASA-powered therapy chatbot, utilizing the BigchainDB-IPFS blockchain database for behavior analysis and secure medical record storage.

## PUBLICATIONS

- Vedant Sahai et al. "Leveraging Deep Learning and IoT for Monitoring COVID19 Safety Guidelines Within College Campus." (2020) Advanced Computing. IACC 2020. Communications in Computer and Information Science, vol 1367. Springer, Singapore.