

# VEDANT SAHAI

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## EDUCATION

**Pennsylvania State University** | University Park, PA

May 2024

Master of Science in Computer Science

GPA 3.75

- Teaching Assistant for CMPSC 132: Programming and Computation II: Data Structures

**Fr. Conceicao Rodrigues College of Engineering** | Mumbai, India

May 2021

Bachelor of Engineering in Computer Engineering

CGPA 9.58

## EXPERIENCE

**AI/ML Summer Associate**

June 2023 – Aug 2023

**JP Morgan Chase & Co.** | Wilmington, DE

- Implemented a robust PyTest-based testing framework to validate the Transaction Risk Modeling Team's entire Feature Engineering codebase, ensuring 90% code coverage.
- Designed a real-time recalibration system for the Transaction Risk ML model using the Online ML XGBoost algorithm, achieving a significant TDR and AUC gain of approx. 100-150 basis points.
- Developed a TabNet-based Deep Neural Network as a challenger for the TRS model with around 90% accuracy.

**AI Product Manager**

Oct 2021 – July 2022

**Plexflo** | Mumbai, India

- Pioneered the development of EVidence, a Meter Data Management & Analytics (MDMS) software leveraging ITRON, Sensus Xylem, and Siemens meter data streams, powered by plug-and-play AI algorithms with a latency of less than 90ms.
- Delivered a non-invasive load monitoring (NILM) AI open-source library called Plexflo based on a Time-series Segmentation model with an F1 of around 90%.
- Created a Rooftop Solar Assessment Flask API by employing Mask R-CNN Rooftop Segmentation and Geo-Spatial Image Processing techniques, ensuring SOC2 compliance.

**AI Research Intern**

July 2020 – Sept 2021

**Sync Energy Inc.** | Mumbai, India

- Developed and deployed AWS Lambda-Python-based Geo-Coordinates Power Outage REST API, optimizing power outage statistics extraction process, resulting in a 40% faster response time for outage analysis and resolution.
- Utilized Mask R-CNN to identify and estimate the locations of utility poles with cross-arms from Google Street View images with an accuracy of up to 83%, streamlining infrastructure assessment.
- Generated Neo4J-based knowledge graphs from research papers on wildfires and their effects on grid infrastructure.

**SDE Intern**

June 2019 – July 2019

**Mumbai International Airport Ltd.** | Mumbai, India

- Unified the Airside Safety Management Application [AngularJS and Microsoft SQL Server framework system] with the Incident Monitoring System [Microsoft SQL Server database and .net system] increasing system efficiency by 10%.
- Programmed Python-Shell script to establish a communication link between the ATS and the Flight Feed Server as a backup.

## SKILLS

**Technical Languages:** Python, C, JavaScript, Java, HTML5/CSS3 & LaTeX

**Databases:** MySQL, PostgreSQL, MongoDB & Neo4J

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

**Frameworks:** Django, React.JS, Flask, FastAPI, PyTest, Elasticsearch, Git, Docker, PySpark, Grafana

**ML Frameworks:** PyTorch, Keras, TensorFlow, Rasa, Scikit, XGBoost, HugginFace, Nltk, Arduino, Spacy

## PROJECTS

**Datacertus**

June 2021 – March 2022

*React.JS, AWS APIs, Python, Docker, AWS ELB, AWS Lambda, DynamoDB, Scikit, RASA, PyTorch, Keras*

- Created a full-service, low-code serverless **React. JS-AWS**-based Data Science platform to meet every B2B need.
- Engineered and trained ML models leveraging **PyTorch** and **Tensorflow**, and integrated IntellifaceTM interfaces for enhanced workflow efficiency; achieved a 30% decrease in training time and boosted model performance by 10%.
- Integrated the models using **Lambda – S3 – API Gateway**-based trigger event thereby making processing 10% faster async.

**Conversational AI for Secure Healthcare Assistance**

March 2020 – May 2021

*Docker, Node.JS, MongoDB, RASA, Blockchain, MySQL, Python, Express.JS, jQuery, AJAX*

- Architected **Docker-NodeJS-MongoDB**-based Software for tracking patients' electronic healthcare records.
- Spearheaded the development and integration of a cutting-edge **RASA**-powered therapy **Transformer** chatbot, utilizing the **BigchainDB** blockchain database for emotion analysis and secure medical record storage, optimized health monitoring, behavior analysis, and medical record privacy.

## PUBLICATIONS

- Vedant S., et al. (2021) Leveraging Deep Learning and IoT for Monitoring COVID-19 Safety Guidelines Within College Campus. In: Garg D., Wong K., Sarangapani J., Gupta S.K. (eds) Advanced Computing. IACC 2020. Communications in Computer and Information Science, vol 1367. Springer, Singapore. [https://doi.org/10.1007/978-981-16-0401-0\\_3](https://doi.org/10.1007/978-981-16-0401-0_3)