VEDANT SAHAI

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EDUCATION

The Pennsylvania State University | *University Park, PA* — *May 2024*
Master of Science in Computer Science — *GPA:* ***3.73/4.0***

Fr. Conceicao Rodrigues College of Engineering | *Mumbai, India* — *May 2021*
Bachelor of Engineering in Computer Engineering — *CGPA:* ***9.58/10.0***

SKILLS

Technical Languages: Python, C, JavaScript, Java, HTML5/CSS3 & LaTeX
Databases: MySQL, PostgreSQL, MongoDB & Neo4J
Cloud Technologies: Amazon Web Services & Owncloud
Frameworks: Django, React.JS, Flask, FastAPI, PyTest, Elasticsearch, Git, Docker, PySpark, Grafana, REST APIs
ML Frameworks: PyTorch, Keras**,** TensorFlow, RASA, Scikit, XGBoost, Hugginface, Nltk, Arduino

EXPERIENCE

Teaching Assistant | ***Pennsylvania State University, University Park, PA*** — ***Aug 2022 – Present***

- Teaching Assistant for CMPSC 132: Programming and Computation II: Data Structures - Responsible for creating course contents, labs, assignments, quizzes, practice problems, and projects for a cohort of approx. 500 students.

AI/ML Summer Associate | ***JP Morgan Chase & Co., Wilmington, DE*** — ***June 2023 – Aug 2023***

- Implemented a robust PyTest-based testing framework to comprehensively validate the Transaction Risk Modeling Team's entire Feature Engineering codebase.
- 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 | ***Plexflo, Mumbai, India*** — ***Oct 2021 – July 2022***

- Pioneered the development of EVidence, an advanced P2P-SaaS software leveraging real-time smart meter data and industrial IoT devices, powered by plug-and-play AI algorithms with a latency of less than 90 milliseconds.
- 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 API by employing Mask R-CNN Rooftop Segmentation and Geo-Spatial Image Processing techniques, ensuring compliance with SOC2 standards.

AI Research Intern | ***Sync Energy Inc., Mumbai, India*** — ***July 2020 – Sept 2021***

- Programmed AWS Lambda-Python-based Geo-Coordinates Power Outage API and in-house RASA chatbot to enhance power outage statistics extraction and user interaction with GridLAB-D Simulation Software.
- 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 | ***Mumbai International Airport Ltd., Mumbai, India*** — ***June 2019 – July 2019***

- 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].
- Programmed Python-Shell script to establish a communication link between the ATS and the Flight Feed Server.

PROJECTS

Datacertus — ***June 2021 – March 2022***

Reacts.JS, AWS APIs, Python, Docker, ELB, AWS Lambda, DynamoDB, Scikit, RASA, Chart.JS

- Created a full-service, low-code serverless AWS-based Data Science platform to meet every B2B need.
- Trained PyTorch/Tensorflow-based ML models and devised workflows, by using IntellifaceTM drag-and-drop interfaces to expedite the model training process.

Leveraging Conversational AI for Secure Healthcare Assistance — ***March 2020 – May 2021***

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

- End-to-end Docker-NodeJS-MongoDB-based Software for tracking patients' electronic healthcare records.
- Integrated a RASA-based therapy Transformer chatbot, leveraging the BigchainDB blockchain database for the analysis of emotion, storing and tracking medical records, monitoring health, and analyzing behavior.

PUBLICATIONS

- Vedant S., Jason D., Mayank S., Mahendra M., Dhananjay K. (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

ACTIVITIES

- **Winner** at *Smart India Hackathon* — ***March 2019***
- **Fourth Runner-Up** at *India Singapore Hackathon* — ***September 2019***