Vedant Sahai

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Experience

JP Morgan Chase & Co. Jun 2023 – Aug 2023
AIML 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 ITRON, Sensus Xylem and Siemens 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 AI 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 Developer 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, HugginFace, NLTK, Spacy, Pandas
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

Pennsylvania State University May 2024
Master of Science in Computer Science & Engineering ***(GPA: 3.75 / 4.00)*** *University Park, PA*
- **Teaching Assistant:** CMPSC 132: Programming and Computation II: Data Structures
- **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 / 10.00)*** *Mumbai, India*

Projects

Datacertus May 2022
Reacts. JS, AWS APIs, Python, Docker, AWS ELB, AWS Lambda, DynamoDB, Scikit, RASA, PyTorch, Keras, Scikit-Learn
- Trained a BERT summarization model to summarize updates on disaster information with 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.

Publication

Vedant S., Jason D., Mayank S., Mahendra M., Dhananjay K. (2021) Leveraging Deep Learning and IoT for Monitoring COVID19 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.org10.1007978-981-16-0401-0_3