Sakshi Doshi

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Education

- **University of Massachusetts Amherst(3.86)** — Amherst, MA
  Master's of Science - Computer Science; Specialization - Data Science — May 2023
  Courses: Advanced Algorithms, Software Engineering, Neural Networks, Advanced NLP, Statistics, Database Design, Machine Learning, Game Programming
- **University of Pune** — Pune, India
  Bachelor's in Computer Engineering — July, 2021

Experience

Data Scientist — May 2022 - Aug 2022
DataSeers.ai — *Natick, MA*

- Currently working with Large Language Models such as LLama2, GPT and Alpaca to generate suspicious activity reports. **Reduced compute and memory by almost 50%** by using quantization techniques such as QLora.
- Worked on real-time fraud detection by using models such as Random Forest, Agglomerative clustering, Isolation Forest and LSTM.

Software Engineer Intern — May 2022 - Aug 2022
MathWorks — *Natick, MA*

- **Enhanced readability by 90%** by diligently converting Allocation Matrix in web application into Diagrams using MATLAB, C++, and JavaScript in a driven and fast-paced manner.
- **Reflected 95%+** of Matrix as Allocation Diagram by independently and proactively completing the feature.
- Contributed to the success of the Architecture Modeling Web Development Project as a member of **11-person System Core Architecture Team**.

Software Engineer and Full Stack Engineer Intern — Aug 2020 - Apr 2021
Center for Development of Advanced Computing(C-DAC), India — *Remote*

- Decreased generated mesh triangles by **27% without sacrificing accuracy** by replacing the irregular triangular mesh with a regular one in Mesh Generation for Flood Simulation project.
- Optimized Software Development process by **40%** using Param Shakti Super Computer for parallel computation.
- **Increased accessibility by roughly 98%** by building a Web Portal to depict real-time flood simulation using React, MongoDB, Express, Node and JavaScript libraries such as Leaflet.js, Geotiff.js, Chart.js, etc.

Machine Learning Engineer Intern — Aug 2020 - Dec 2020
Securly — *Remote*

- **Eliminated 90% of redundant information** comprising of Email Signatures and Disclaimers using Natural Language Processing (NLTK, SpaCy, OpenNLP) and Regular Expression.
- Examined emails in more detail to determine if the student showed signs of a mental health condition that might lead to self-harm. Used Pandas for Data Preprocessing and Sentiment Analysis and NumPy for Data Transformation and Cross-Validation.
- Analyzed more than **5 billion activities and saved 1937 lives** so far.

Projects

- **Prediction of Pulmonary Fibrosis Progression: Outperformed the Kaggle competition winner** by achieving Laplace log-likelihood score of **-6.8303**. Implemented Deep Neural Network (ResNet) architecture to train the CT Lung Scans and Multiple Quantile Regressor to train the Tabular data. Used NumPy, Sci-kit learn for CT Scan Image Processing along with Pandas for tabular data cleaning. Concatenated both outputs in the end to give Forced Vital Capacity of lungs.
- **Deepfake Detection using Deep Learning (BPRD, Smart India Hackathon): Led the team to nationals** and got up to **96% accuracy** in classifying Deepfakes by using EfficientNet B7 Convolutional Neural Net. Used NumPy, Sci-kit Learn for Video Frame Processing, Feature Extraction and Pandas for Visualizations. Developed a Mobile Application(Flutter), Web Portal (MERN stack and Microsoft Azure) and APIs to provide an interactive end for the model.

Skills

- **Languages:** Python, C# , C++, Javascript, JAVA, R, HTML, CSS
- **Frameworks:** React, Express, Node, Dojo, Pytorch, Tensorflow, NumPy, NLTK, Sci-kit learn, Pandas,JUnit
- **Database:** MongoDB, SQL, MySQL, PostgreSQL
- **Cloud:** AWS, Microsoft Azure, Google Cloud Platform
- **Softwares:** UNITY, Git, Tableau, MATLAB, Wireshark, ArcGIS, Photoshop,Illustrator, Microsoft Office

Publications and Certifications

- **A Review of Mesh Generation in ANUGA:** Springer International Conference on Sentimental Analysis and Deep Learning ICSADL 2021
- **Mesh Creation Tool for ANUGA (Won the best paper award):** National Conference on Recent Advances in Computer Engineering [RACE-2021] in association with Computer Society of India