DEBANNA DAS

Rajasthan, India

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Education

Birla Institute of Technology and Science, Pilani   **Oct. 2022 – Present**
Bachelor of Engineering   *Rajasthan, India*

Udacity - AWS AI/ML Scholar'23   **Jun 2023 - Oct 2023**
Nanodegree, AI Programming with Python

Experience

Carnegie Mellon University   **Dec. 2023 – Present**
Undergraduate Research Intern   *Remote*
- Spearheaded the application of advanced Deep Learning, NLP, and Artificial Neural Networks techniques to analyze and decipher intricate cryo-electron microscopy data, facilitating breakthrough insights into molecular structures.
- Engineered and implemented a data visualization system utilizing Matplotlib, OpenCV, and Pandas, resulting in a 40% reduction in data processing time and a 25% improvement in data interpretation efficiency.
- Pioneered the integration of Cryogenic Electron Microscopy expertise into AI-powered cryo-electron tomography techniques, propelling advancements in high-resolution imaging and molecular analysis methodologies.

DreamSync   **May 2023 - July 2023**
Cloud Operations Intern   *Remote*
- Engineered a cost-optimized, secure, and scalable cloud architecture on AWS, enabling seamless application migrations and a 20% increase in peak performance through implementation of best practices, automation scripts, and autoscaling strategies.
- Collaborated with data scientists to establish robust model pipelines and implement continuous monitoring for high-performing ML models deployed on AWS SageMaker, resulting in a 15% reduction in error rates
- Employed effective scaling strategies, automation scripting, and comprehensive monitoring tools to optimize Amazon EC2 instances for varying workloads, achieving a 10% cost reduction while maximizing performance.

Technical Skills

Languages: Python, C/C++, SQL, JavaScript
Skills: Data Structures and Algorithms (DSA), Object Oriented Programming Systems (OOPS), Operating Systems (OS), Data Science, Machine Learning, Deep Learning, Cognitive Modelling, Neural Networks, Natural Language Processing, Large Language Models
Developer Tools: Postman, Git, GitHub, AWS, Linux, Docker, JSON, Google Cloud Platform, PyCharm, Jupyter Notebook
Libraries: Pandas, NumPy, Matplotlib, TensorFlow, NLTK, Keras, Seaborn, scikit-learn, SciPy, OpenCV
Technologies/Frameworks: Django, Django REST framework, FastAPI, PostgreSQL, MongoDB

Projects

CineGenius:Revolutionizing Movie Recommendations | *Python, Pandas, NumPy, scikit-learn, NLP*   **January 2024**
- Engineered CineGenius, an innovative movie recommendation platform, by implementing Python, Pandas, NumPy, and scikit-learn; integrated advanced cosine similarity and NLP algorithms to optimize user satisfaction and boost retention rates.
- Orchestrated the processing and analysis of movie data in CineGenius, leveraging Python, Pandas, NumPy, and scikit-learn to extract crucial features for machine learning models, leading to a 25% improvement in recommendation accuracy.

Stock Price Prediction with Random Forest & Live Yahoo Data | *Python, yfinance, scikit-learn*   **April 2024**
- Engineered a predictive model using Random Forest Regression and real-time data from Yahoo Finance to forecast stock prices; achieved a 20% increase in accuracy, outperforming industry benchmarks within 6 months.
- Evaluated model effectiveness by computing Mean Squared Error (MSE) score below 1, confirming precise forecasting accuracy and enhancing strategic decision-making processes with data-driven insights.

Dating Application | *Python, Django, Google API, WebSocket, HTML, CSS, JavaScript*   **January 2023**
- Developed a cutting-edge web platform with seamless Google sign-in, interactive live chat, robust user profiles, block/unblock capabilities, and advanced reporting tools; boosted user retention by 30%
- Enhanced user experience by implementing live chat feature, resulting in 25% increase in customer engagement and improved response time by 40% for real-time issue resolution.