Satyam Kumar

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My Portfolio

Summary

MSc **Big Data Science Graduate** with expertise in **Frontend Development (Next.js, Tailwind)** and Data Visualization **(Tableau and PowerBI)**.Skilled in **Machine learning**, Data Mining, and Big Data tools **(Apache Spark and Hadoop)**.Passionate about building data-driven, user-friendly applications.

Skills

Programming Languages: Python, C, MySQL, JavaScript, HTML5/CSS3

Frameworks: NextJs, TailwindCSS, TensorFlow, PyTorch, Apache Spark, Hadoop, React, Node.js, Express, EJS, TypeScript

Industry Knowledge: A/B testing, KPI, ETL, Data Processing

Libraries & Tools: NumPy, Pandas, Scikit-learn, OpenCV, NLTK, Git, Docker, Tableau, MS-Excel, AWS, Azure, Kubernetes, MongoDB, Jupyter Notebook

Education

M.S. in Computer Science, Big Data Science — London, UK
Queen Mary University of London — *Sept 2022 – Jan 2024*

B.E. in Electronics and Communication — Bangalore, IN
Visvesvaraya Technological University — *Aug 2018 – Jul 2022*

Projects

Detection of Brain tumor — Queen Mary University of London
Machine Learning Project — *Python, PyTorch, NumPy, Pandas, matplotlib*

- Developed and implemented deep learning models (CNN, ResNet, VGG16) for brain tumor detection from MRI scans, achieving 80.73% accuracy with the CNN model.
- Preprocessed and analyzed 2,000+ MRI scans using image augmentation techniques (average and Laplacian filters), enhancing feature extraction and model robustness.
- Evaluated AI models based on accuracy, sensitivity, and specificity, optimizing early tumor diagnosis and potentially improving clinical decision-making in neuro-oncology.

Ethereum Data Analysis — Queen Mary University of London
Big Data Processing — *Python, PyTorch, NumPy, Pandas, matplotlib*

- Implemented Big Data processing techniques to analyze Ethereum transactions and smart contracts using Apache Spark, reducing data processing time by 40%.
- Developed data-driven visualizations using Matplotlib to track transaction trends, scam activities, and gas price fluctuations over time, improving insights into blockchain behaviors.
- Performed advanced data joins and aggregations to identify the top 10 smart contracts and top 10 active miners, leveraging Spark's reduceByKey and takeOrdered methods for optimized analysis.

Sound Analysis using ML model — Queen Mary University of London
Machine Learning Project — *Python, scipy, numpy, scikit-learn, matplotlib, seaborn*

- Built an SVM-based pipeline to classify London audio segments, achieving 57.48 % accuracy with MFCCs and spectral features.
- Extracted and analyzed 45+ audio features using Librosa, optimizing models via cross-validation and hyperparameter tuning.
- Assessed model robustness with confusion matrices and key metrics, addressing data imbalance for better generalization.

Analyze the spread of memes on social media — Queen Mary University of London
Network Analysis & Visualization Project | — *pandas, scipy, scikit-image, seaborn, Gephi*

- Used Gephi Network Analysis to track meme propagation on Reddit, analyzing over 20,000 data points.
- Extracted insights using Gephi's visualization tools, including statistics, filters, and graph layouts, improving analysis efficiency by 30%.
- Generated conclusive network graphs based on targeted queries, identifying key trends and influencers in meme spread.

Experience

Web Design Freelancer — April 2021 - September 2024
Fiverr Freelance Services — *London, UK*

- Created overlays for live streamers and 10 different web-based chat services using HTML/CSS/JavaScript.
- Provided custom design codes for live streams and web-based platforms.
- Delivered customized web design solutions to clients, achieving a 95% client satisfaction rate with high-quality, aesthetically engaging designs.

Research & Publications

- Satyam Kumar. (2025). "Detection of Brain Tumor using MRI Scans." ResearchGate, here.
- Satyam K, & NishantAK P, Abhishek G, Siddharth P. (2022). "IoT-based EV Charging Station." ResearchGate, here.