SAURABH SINGH

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PROFESSIONAL SUMMARY

Results-driven AI Engineer and Data Scientist with 5 years of combined experience in software engineering and AI/machine learning research. Proven track record in developing and deploying data-driven solutions, large language models, and full-stack applications. Adept at collaborative and independent research, with a focus on NLP, deep learning, and big data analytics.

EDUCATION

National University of Singapore — Singapore
Masters in Computing: Artificial Intelligence specialization — *Jan. 2022 – Dec. 2023*

SRM Institute of Science and Technology, Kattankulathur — Chennai, India
Bachelor of Technology in Computer Science and Engineering, Percentage: 84.03% — *Aug. 2015 – May 2019*

WORK EXPERIENCE

Research Engineer – Data Science — May 2024 – Present
Nanyang Technological University Singapore — *Singapore*

- Developed advanced data mining techniques for analyzing text, stickers, images, and videos on Telegram, improving data extraction and analysis efficiency.
- Engineered large language models (LLaMA) to predict user roles and information dissemination patterns, enhancing the understanding of user behavior.
- Collaborated with multi-disciplinary research teams to deliver successful project outcomes while independently managing key tasks.

Research Assistant Intern — Jul 2022 – Nov 2023
NUS Human Computer Interaction Lab — *Singapore*

- Conducted experiments on Project Eye Gaze, analyzing large datasets to improve eye-gaze pattern recognition with a 99% accuracy rate.
- Performed comparative analysis of machine learning models and neural network architectures to refine eye-gaze recognition.

Software Engineer, Research and Development — Aug 2019 – Oct 2021
Hewlett Packard Enterprise — *Bengaluru, India*

- Led the development of StoreEasy Management Console (SEMC), improving software quality by 15% across 4 support program releases and reducing post-release bug reports by 34%.
- Engineered ETL pipelines and reusable UI components in React/Node.js, enhancing system robustness and user experience within cross-functional teams.
- Implemented Agile methodologies and CI/CD practices using GitHub and Jenkins, which resulted in a 40% reduction in time-to-market and increased international user engagement.

Software Engineer Intern – Full Stack — Jan. 2019 – Jul. 2019
Hewlett Packard Enterprise — *Bengaluru, India*

- Designed and developed UX interfaces for SEMC, achieving 100% backlog defect clearance.
- Leveraged tools like Pytest for unit testing and Grafana/Kibana for monitoring, ensuring high-quality software releases.

Web Development Intern — Jun. 2017
Webnish Software Solutions Pvt Ltd — *Bengaluru, India*

- Engineered an Interactive blog platform using Atom with a 40% faster deployment rate than comparable projects.
- Implemented user authentication functionalities, enhancing user engagement and trust.

Research and Project Experience

Generative AI self introduction APP Dec 2023 – Jan 2024

- Developed an RAG pipeline for a self-introduction app using LangChain and OpenAI API for personalized language generation.
- Integrated TensorFlow for language model optimization and StreamLit for user-friendly GUI design.

Eye-gaze Pattern Recognition, Thesis Jan 2023 – Nov 2023

- Innovated a 98% accurate eye gaze recognition quantitative model using graph neural networks and dynamic programming.
- Executed novel data processing with a 10-gesture dataset, demonstrating a superior accuracy of 97.67% compared to existing models(ANN, CNN, GRU, LSTM, and GCN), in pytorch.

Big Data News Popularity Analysis Jul 2022 – Nov 2022

- Conducted analysis on 90,000 news items from diverse outlets to assess popularity across social media platforms.
- Utilized sentiment lexicon, clustering, and word frequency analysis to gauge news sentiment and identify trending topics.
- Generated visualizations of sentiment scores, clustering results, and popularity statistics across different social media platforms.

Improved Colour Texture Based Face Spoofing Detection, Thesis Aug 2018 – May 2019

- Devised facial fraud detection strategy using component characteristic study and extensive datasets.
- Conducted feature extraction methods(CoALBP, LBP, LPQ, BSIF) and SVM for cluster identification, visualized on MATLAB.
- Conducted quantitative image analysis, published paper in International Journal of Engineering and Advanced Technology, 2019.

Certifications

– Microsoft Azure Fundamentals

– Microsoft Azure AI

– Data Science and Artificial Intelligence (ACM)

– Applied Machine Learning in Python (Coursera)

– Introduction to Data Science in Python (Coursera)

Technical Skills

Languages:
Python, SQL, MongoDB, JavaScript, HTML/CSS

Frameworks:
React, AngularJS, PyTorch, TensorFlow, Keras, Spark, Hadoop, RESTful APIs

Developer Tools:
Git, Jenkins, Jira, Docker, Kubernetes

Libraries:
Pandas, NumPy, Scikit-Learn, NLTK, Spacy, Seaborn, Plotly, Streamlit

AI/ML & Cloud Computing:
Azure AI, Azure SQL Database, AWS Cloud, NLP, Deep Learning, Computer Vision, Large Language Models (LLMs)