Syed Ali Jaseem

+16056594377 ◇ syedalijaseem@gmail.com ◇ Vermillion, SD, United States ◇ LinkedIn ◇ Portfolio ◇ GitHub

EDUCATION

MS in Computer Science, University of South Dakota — Aug '24 — May '26, Vermillion, United States

- Courses: Computer Vision, Distributed Systems, Pattern Recognition, Machine Learning, Reinforcement Learning, AI

BE in Software Engineering, National University of Sciences and Technology (NUST) — Sep '19 — Dec '23, Islamabad, Pakistan

- Courses: Data Structures and Algorithms, Object Oriented Programming, Software Design and Architecture, OS, IOT

WORK EXPERIENCE

AI ADVOCATE I — Mar '24 — Jul '24
Afiniti — Karachi, Pakistan (Remote)

- Spearheaded collaboration with Data Science teams to diagnose and resolve deployment-blocking data issues in 90% of reported cases, ensuring accurate and consistent data inputs through knowledge of SQL, Polars, and Pydantic.
- Leveraged deep codebase knowledge and advanced troubleshooting to improve error detection by 7% and expedite resolution by 10%, reducing delays and enhancing accuracy.
- Optimized data pipelines by diagnosing and resolving input discrepancies, improving model deployment efficiency by 5% and ensuring consistent data integrity across production systems.
- Increased error detection efficiency by 7% through log analysis, data flow tracing, and issue reproduction, reducing debugging time by 10%.

Frontend Developer Intern — Dec '23 — Mar '24
PureSquare — Karachi, Pakistan

- Engineered a scalable admin panel managing 1,400+ affiliate records, enhancing data handling efficiency 5%.
- Streamlined state management with Context API, enhancing application responsiveness and user experience by 6%.
- Reduced page load times by 3% and improved CRUD response times by 5% through efficient use of Axios for API calls.

Web Developer Intern — Jun '22 — Aug '22
Internet of Things (IOT) Lab — Islamabad, Pakistan

- Designed a responsive web app for tracking cattle vitals, boosting accessibility by 5%.
- Crafted a REST API with MongoDB, Node.js, and Express, optimizing data management and performance.

PROJECTS

Multimodal Fusion for Breast Lesion Analysis using MRI Images and Text Link — Sep '24 — Dec '24

- Extracted multimodal features from 256 ultrasound images and clinical text using OpenAI's CLIP, evaluating early and late fusion for breast cancer diagnosis.
- Developed a CNN in TensorFlow, achieving F1 score of 0.7 and 77% validation accuracy, with generalization challenges.
- Constructed a text-only model with transformers and scikit-learn, reaching 100% accuracy and F1 score of 1.0, then reduced to 97.7% after excluding missing age values for better generalization.
- Delivered early fusion of text and image embeddings, reaching 97% accuracy, 0.96 precision, recall, and F1 score.
- Elevated model robustness with late fusion in TensorFlow and PyTorch improving classification to 98% accuracy, 0.96 precision, 0.99 recall, and 0.98 F1 score.

Fraud Detection in Job Postings Using BERT-Based NLP Link — Sep '24 — Dec '24

- Created an NLP-based fraud detection model using BERT, achieving 95% accuracy, 92% recall, and 0.97 AUC-ROC, improving accuracy by up to 5% and recall by 14% over Logistic Regression.
- Enhanced BERT classification with WordPiece tokenization, truncation, and padding for consistent input length.
- Applied SMOTE for Logistic Regression to boost fraudulent job recall from 78% to 85%, and implemented class balancing for BERT, achieving a 95% recall without synthetic data.
- Augmented fraud detection accuracy by 3% with TF-IDF and attention-based attribution, increasing AUC-ROC by 0.06

SKILLS

Programming Languages: Python, JavaScript, Typescript
Web Development: React Js, Next.js, Tailwind CSS, HTML, CSS, Flowbite, Bootstrap
Machine Learning: PyTorch, Polars, SQL, Pandas, Numpy
Software Practices Git, Agile, OOP, DSA, Github, Bitbucket, Docker, AWS

CERTIFICATIONS

The Ultimate React Course 2025: React, Next.js, Redux & More, Udemy — Apr '25
Advanced Learning Algorithms, DeepLearning.AI — Mar '25