Nagur Shareef Shaik

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Education

Georgia State University **Aug 2023 – Dec 2024 (Expected)**
Master of Science in Computer Science - CGPA 4.0/4.0 *Atlanta, GA, USA*

Technical Skills

Programming Languages: Python, Java, JavaScript, Structured Query Language (SQL)
AI & Machine Learning: PyTorch, TensorFlow, Keras, Scikit-learn, OpenCV, NLTK, SpaCy, NumPy, Pandas, Tableau, Matplotlib, Deep Learning (Neural Networks, Transformers, LLMs), Computer Vision, Natural Language Processing (NLP)
Web Technologies: Spring Boot, Microservices, REST APIs, Databases, Git, Bitbucket, Agile, Jira, SDLC
Cloud & Deployment: Azure DevOps, AWS Services, Azure ML Studio, MLFlow, CI/CD, Docker, Jenkins, Kubernetes
Certifications: Microsoft Certified Azure AI Fundamentals, Deep Learning Specialization, Python for Everybody

Professional Experience

TReNDS Center (Georgia Tech, Georgia State & Emory) **Aug 2023 – Present**
Graduate Research Assistant (Data Scientist) *Atlanta, Georgia, USA*

- **Multi-Modal Imaging Genomics Transformer:** Pioneered a fusion model combining genomics with sMRI and fMRI, elevating schizophrenia diagnosis accuracy by **2.12%** and uncovering vital neuro-genetic markers.
- **Multi-Modal Medical Transformer:** Designed a vision-language model integrating retinal image features with clinical keywords, resulting in a **13.5%** increase in BLEU-4 score over GPT-2 for diagnostic report generation.
- **Guided Context Gating:** Innovated an advanced attention model that optimizes context learning in retinal images, amplifying diagnosis accuracy by **2.63%** over advanced attention methods and **6.53%** over Vision Transformers.
- **Spatial Sequence Attention Network:** Formulated a unique attention mechanism to highlight schizophrenia-specific regions in brain sMRI, increasing diagnostic accuracy by **6.52%** and providing critical neuroanatomical insights.

Carelon Global Solutions (subsidiary of Elevance Health) **Sep 2022 – Aug 2023**
Software Engineer III | CSBD *Hyderabad, Telangana*

- **COmpensation INcentive System:** Implemented RESTful APIs for a microservices-based application to validate, compute, and expedite incentive payments, achieving a **10%** reduction in processing time and enhancing scalability.
- **Data Cleaning:** Automated transactions data clean-up using Python & SQL improving operational efficiency and saving **30%** of incentive over payments.
- Resolved critical production issues, preventing **$1.5M** commission over payments, ensuring seamless business operations

Tata Consultancy Services **Aug 2020 – Sep 2022**
Software Engineer | Analytics & Insights *Hyderabad, Telangana, India*

- **Jeopardy Automator:** Developed an automated bug root cause prediction system with an Attention-based LSTM in Azure ML Studio, cutting debugging time by **60%**, driving cost-efficient resource allocation & development cycles.
- **Order Data Orchestrator:** Optimized data pipelines to streamline order orchestration, reducing fallouts by **30%** and ensuring seamless real-time data flows across hybrid IT environments.
- **Operational Dashboards:** Achieved a **$3M** revenue profit increase through enhanced operational transparency and data-driven decision-making enabled by interactive dashboards visualizing order trends and business insights.
- **Auto Deployer:** Architected Azure DevOps Model Deployment pipeline, achieving a **40%** reduction in deployment time and increasing system availability by **25%** for streamlined Machine Learning model artifacts deployment.

Research Experience / Publications

- Published innovative research in **14** high-impact **journals** and presented findings at **3** top-tier **conferences**, pioneering novel attention networks, multi-modal fusion techniques, and transformer-based vision-language models for applications in medical image classification and diagnostic report generation demonstrating advancements of AI in Medicine. The full list of papers can be found in **Google Scholar**.
- Reviewed over 15 papers for 13 prestigious journals, delivered talks, and presented research findings at conferences including the IEEE International Symposium on Biomedical Imaging (ISBI 2024) and the IEEE International Conference on Image Processing (ICIP 2024).

Projects

Retinal Health Diagnostics - Intelligent CAD System | *Python, Flask, TensorFlow, Computer Vision, NLP* **Dec 2023**

- Conceptualized and built a cutting-edge AI-powered diagnostic tool tailored for identifying retinal diseases like cataracts, macular edema, and diabetic retinopathy across various imaging modalities. Our system achieves an impressive **92%** accuracy, automating the diagnosis process and generating detailed reports with clinical recommendations. **Know more**