Tejaswini Kallakuri

Dallas, TX | 716-717-2706 | [LinkedIn](#) | [Github](#) | [Portfolio](#) | saitejaswini369@gmail.com

EDUCATION

Master of Science: Artificial Intelligence, University at Buffalo, The State University of New York   *June 2024*
- Coursework: Machine Learning, Fundamentals of AI, Pattern Recognition, Deep Learning, Computer Vision and Image Processing, NLP, Robotics Algorithms, Data Intensive Computing

Bachelor of Technology: Electronics and Communication Engineering, Sreenidhi Institute of Science and Technology   *June 2020*
- Coursework: Image Processing, Robotics, Data structures, Probability and Stochastic Processing

TECHNICAL SKILLS

Programming Languages: C, Python, Linux, SQL
Neural Network Architecture: CNN, ANN, RNN, GAN's, Transformers
ML Algorithms: Regression, Classification, Naïve Bayes, Clustering
Frameworks: Pandas, NumPy, Matplotlib, Scikit-Learn, Keras, SciPy, TensorFlow, PyTorch, LLM, OpenCV, Hugging Face
Tools: Power BI, Docker, MATLAB, ROS, Hadoop, Spark, Git, CUDA
Cloud Services: MLOps, AWS - QuickSight, EC2, Sage Maker, DynamoDB, Lambda and Google Cloud Services, Azure
Certifications: AWS Cloud Practitioner, Cloud Computing and MLOps, Python, Deep Learning, IBM-SPSS Modeler (Data Analysis)

WORK EXPERIENCE

Graduate Researcher - Institute for Artificial Intelligence and Data Sciences, UB, NY   *Aug 2023-May 2024*
- Led the development of a real-time pothole detection system using YOLOv7 and PyTorch, achieving 95% accuracy in road defect identification through precise instance segmentation.
- Implemented Hugging Face-based MobileNetV2 and SqueezeNet, reducing model size by 97% through network pruning techniques without compromising accuracy, and enhanced processing efficiency using CUDA for deployment on edge devices.
- Coordinated with team of professors to conduct extensive testing under various adverse weather and lighting conditions, ensuring system robustness and a 25% increase in detection reliability, thereby improving road safety.

Graduate Researcher - Drones Lab, University at Buffalo, NY   *Feb 2023-Aug 2023*
- Conducted advanced research for a DARPA project, achieving 95% accuracy in identifying and classifying individuals from long distances using UAV cameras or street cams based on gait key points/poses.
- Designed and managed a CI/CD pipeline with Google's ML Kit, TensorFlow, Keras, and Scikit-Learn for data annotation, model training, and evaluation. Presented research findings at The Center for Identification Technology Research (CITeR).

Machine Learning Engineer – Cisco, Bangalore, India   *Jul 2020-Jul 2022*
- Optimized ETL pipelines for healthcare and finance sectors using Decision Trees and Random Forests with TensorFlow, boosting user engagement by 15% and operational efficiency by 10%. Leveraged AWS (EC2, S3, SageMaker, Lambda, Redshift) to boost data processing efficiency, achieving a 30% reduction in processing time and operational costs.
- Automated microservices deployment by integrating into the CI/CD pipeline, enhancing efficiency by 84%. Utilized Docker, Kubernetes, and GitLab, reducing manual data preprocessing by 80% through MLflow implementation, streamlining end-to-end workflows and introducing automated data quality checks with Spark.
- Mentored a team in using convolutional neural networks (CNNs) for detailed image analysis and recurrent neural networks (RNNs) for patient data pattern recognition, reducing discrepancies by 12%. Effectively communicated complex models to non-technical stakeholders, enhancing data-driven decision-making and operational efficiency.

AI Research Intern - Activa Inc., Hyderabad, India   *Jan 2020-July 2020*
- Developed and deployed ML algorithms for autonomous robots equipped with 2-D and 3-D Lidars for point cloud mapping and object recognition, leading to a 15% increase in the effectiveness of factory planning and reconstruction projects.
- Collaborated with cross-functional teams to create data pipelines that enhanced robot navigation and spatial understanding.

PROJECTS

Resume Parser and Job Recommendation System - *Python, NLTK, spaCy, Flask API, Random Forest*
- Developed a resume parser with a Flask-based API, enabling users to upload resumes and automatically extract key skills, provide job recommendations, and categorize job industries (finance, healthcare, IT) using a random forest model.
- Trained the system on a dataset of 25,000 resumes, achieving high accuracy in skill extraction and job classification, enhancing job search efficiency for users.

Waze User Churn Prediction - *Python, Flask API, EDA, PyTorch*
- Developed a Flask-based web application for Waze to predict customer churn with 93% accuracy. Performed predictive analytics enabling dynamic user interaction, refining data-driven strategic decision-making, such as personalized retention offers or identifying the right time to engage with customers to prevent churn.

Authorship Attribution for Neural Text Generation - *LSTM, LLM, NLP, Python, CNN, NLTK, spaCy, Transformers*
- Employed Bi-LSTM, Stacked CNN models to distinguish between AI-generated text and human-authored text, boosting fraud prevention, resulting in F-1 score of 1. Performed web scraping using python to gather AI text from GPT3 and Instruct GPT.

Drowsiness Detection with OpenCV and Keras - *CNN, Python, OpenCV, Keras*
- Devised CNN based drowsiness detection method trained on a diverse dataset of over 10,000 drivers, leading to a 95% detection accuracy rate with OpenCV's face detection and landmarks to avoid accidents by triggering alarm.