Shruti Sriram

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EDUCATION

The University of Texas at Austin *Aug 2024 - Present*
Master of Science in Computer Science
Focus Areas: *Software Development, AI/ML, Computer Vision*
Courses: *Database Systems, Distributed Computing, Scientific Computation for ML/DL*

Sri Sivasubramaniya Nadar College of Engineering *Aug 2020 - Jun 2024*
Bachelor of Engineering in Computer Science and Engineering *CGPA: 9.61/10*

TECHNICAL SKILLS

Languages & Frameworks: Python, C/C++, Java, SQL, HTML, CSS, JavaScript, Rust, Bash, React, Node.js, Django, Gradio
Others: TensorFlow, Keras, PyTorch, OpenCV, Scikit-Learn, Figma, Git, XCode, Android Studio, Blender, GIMP, AWS

EXPERIENCE

The University of Texas at Austin, Teaching Assistant *Aug 2024 – Present*
- Mentored over 50 students enrolled in the Data Management course through complex lab exercises, discussed possible approaches, and debugged code; designed test cases, tested the submitted solutions and graded them

Citibank, Summer Analyst Intern *May 2023 – Jul 2023*
- Designed a billing feed automation pipeline using Apache Camel, Java, and SpringBoot that gets triggered on a daily, weekly, and monthly basis to receive data from databases, and dynamically update the database or create new tasks based on a specific criterion; assisted the team in upgrading the pipeline to Java from Ab Initio enhancing the pipeline efficiency
- Analyzed a geographical time series dataset and illustrated the findings through a comprehensive Tableau dashboard, significantly improving data visualization and hypothesis formulation
- Certificate: Citibank - Internship Certificate

Synergy Maritime, Software Development Intern *Aug 2022 - Aug 2022*
- Utilized Python libraries such as Pandas, NumPy and Matplotlib, to analyze, process, effectively visualize, and summarize large datasets, which streamlined operations and contributed to an increase in the precision of results
- Designed and implemented a website for ship details collection using HTML, CSS, and SQL Server, improving data management efficiency and user experience with intuitive navigation and faster data entry and retrieval
- Certificate: Synergy Maritime - Internship Certificate

Learning Room, Content Creation Intern *Jun 2021 – Oct 2021*
- Prepared creative and illustrative learning material and verified the course content for Central Board of Secondary Education (CBSE) classes 9 to 12 and Joint Entrance Examination (JEE)
- Certificate: Learning Room - Internship Certificate

PUBLICATIONS AND SUBMISSIONS

Multimodal Forgery Detection In Videos Using A Tri-Network Model *Aug 2023 – May 2024*

Published the findings in 2024 10th International Conference on Advanced Computing and Communication Systems (ICACCS)
Certificate: ICACCS 2024 Paper Presentation Certificate

PoSh at SemEval-2023 Task 10: Explainable Detection of Online Sexism *Nov 2022 – Feb 2022*
Published the findings in the *Proceedings of the 17th International Workshop on Semantic Evaluation*

A Fusion Approach for Web Search Result Diversification Using ML Algorithms *Jan 2022 – Jun 2022*
Published the findings in the *CEUR Workshop Proceedings*

PROJECTS

911 Emergency Response System Enhancement *Nov 2024 – Nov 2024*
- Developed 911 AI agent leveraging Llama3.2-vision model for 911 services to analyze caller tone and background sounds, helping dispatchers assess urgency and prioritize effectively; implemented multi-modal communication channels (video, audio, text) and multi-language support, enhancing accessibility and reducing response time during emergencies

Segmentation and 3D Reconstruction of Arteries, Istinye University, Turkey *Dec 2022 – Present*
- Developed a model to segment arteries to detect abnormalities; employed UNet and TransUNet for segmentation at each slice, and K-Means Clustering and Canny Edge Detection to identify edge points; performed 3D reconstruction using edge points from masks generated by UNet, due to higher IoU score (0.89) than TransUNet (0.65)

Multimodal Forgery Detection In Videos Using A Tri-Network Model *Aug 2023 – May 2024*
- Created a tri-network model using Swin, Video Swin Transformers, and Wav2Lip models to overcome the existing limitations in forgery detection; enhanced video clarity by introducing a video resolution element which allowed easy feature detection
- Achieved a much higher accuracy of classification with 99.88% for audio, 97.09% for video, 92.6% for audio-visual modalities

Automatic Estimation of Fish Count in Aqua Farms *Jan 2022 – May 2024*
- Conceptualized and developed a model using YOLOv8 and ByteTrack to count and track fish in frames captured in real-time
- Built a pluggable product by loading the model onto Raspberry Pi and connecting it to a webcamera
- This prototype was included in a project which aimed to build smart, customised fish feed dispenser

Investment Portfolio Management System *Jan 2023 – Jun 2023*
- Designed an investment portfolio web app using HTML, CSS, JavaScript, JSP, Java Servlets, and AJAX to keep track of the purchased shares, and profit and loss margins, and to notify the managers and the users when to buy or sell shares

PoSh at SemEval-2023 Task 10: Explainable Detection of Online Sexism *Nov 2022 – Feb 2022*
- Developed a machine learning model to analyze various comments and classify them based on the varying degrees of vulgarity and offense using an ensemble based on transformers like ALBERT, BERT, RoBERTa, DistilBERT, and XLNet
- Aggregated the predictions to determine the final class for the comment using Majority voting algorithm which had a better accuracy compared to the individual models

ImageClef2022 - A Fusion Approach for Web Search Result Diversification Using ML Algorithms *Jan 2022 – Jun 2022*
- Developed a machine learning model to rank images based on relevance to queries using an ensemble of KNN, SVR, and CART which improved the accuracy of prediction and efficiency of the query search