

Nithish SV

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Education

SHANMUGHA ARTS,SCIENCE,TECHNOLOGY AND RESEARCH ACADEMY(SASTRA)	Mar 2021 – July 2025
<i>B.Tech, Information Technology</i>	<i>CGPA: 7.88/10 (current)</i>
Kamala Niketan Montessori School (CBSE)	2021
<i>Intermediate (12th Grade)</i>	<i>89.6%</i>

Relevant Courses

- Microsoft Azure Machine Learning
- Computer Vision
- Deep Neural Networks
- Machine Learning Techniques
- Database Management System(SQL)
- Data Structures and Algorithms

Skills

- **Programming Languages:** Python, SQL, PHP, HTML, JavaScript, C++
- **Libraries/Frameworks:** React.js, Express.js, Mongoose, Scikit-learn, TensorFlow, Pandas, NumPy, Streamlit

Projects

Lightweight Federated Learning Framework for Drowsiness Detection	Jan 2025 – Apr 2025
<ul style="list-style-type: none">• Developed a privacy-preserving drowsiness detection system using MobileNet + CapsuleNet, enabling edge deployment with high efficiency.• Integrated Federated Learning (FL) and Knowledge Distillation (KD) achieving 89.67% accuracy while reducing model size by 72× and improving data privacy.• Deployed on Raspberry Pi, reducing inference latency by over 50% and improving robustness on Non-IID data.	
Secure Chat Application	Nov 2024 – Dec 2024
<ul style="list-style-type: none">• Developed a secure, real-time chat application using the MERN stack and Socket.IO, enabling one-on-one messaging with user-specified socket connections.• Implemented AES encryption for secure message transmission, ensuring end-to-end confidentiality of user data.• Designed a dynamic and responsive UI with React, enabling real-time updates and an intuitive chat experience.• Integrated user authentication and recipient-specific messaging, enabling personalized and secure communication.	
ISRO's Response Project	May 2024 – June 2024
<ul style="list-style-type: none">• Leveraged Cartosat-2E satellite data and Fully Convolutional Networks (U-Net, LinkNet, FPN) for semantic segmentation to extract agricultural field boundaries.• Achieved better segmentation results for Punjab (regular field boundaries) compared to Tamil Nadu (irregular fields) due to distinct regional characteristics.• Incorporated Explainable AI (XAI) techniques such as Grad-CAM and LIME to interpret and visualize the model's decision-making process, improving the transparency and reliability of the segmentation results.	
Wind Power Prediction	Jan 2024 – Apr 2024
<ul style="list-style-type: none">• Preprocessed the data using Feature Engineering, Detected the wind power using ML and DL models like DNN, KNN, LSTM, RF, Bagging Regressor, and Gradient Boosting, GRU, GRU with PSO, LSTM with PSO.• Compared the wind power predictions from different models and evaluation errors were nearly the same as in IEEE published papers.	

Certificates

• Microsoft Azure AI Fundamentals AI-900	<i>Coursera, 2025</i>
• Introduction to Python	<i>HackerRank, 2023</i>
• Problem Solving	<i>HackerRank, 2023</i>
• SQL (Basic)	<i>HackerRank, 2023</i>

Achievements

- Won silver medal in school-level swimming competition (2020)