Jothika K

+91-8778659857 jothika00015@gmail.com linkedin.com/in/jothika-k-61ab89287/

Education

Amrita Vishwa Vidyapeetham
Coimbatore, India
B.Tech in Computer Science with Specialization in AI | *CGPA: 8.96/10* *August 2023– Present*

AISSCE
Coimbatore, India
Suguna Pip School | Grade: 9.3 *2021-2023*

ICSE
Nilgiris, India
Nazareth Convent High School and Junior college | Grade: 9.26 *2011-2021*

Projects

Remote Sensing Satellite Image Classification with CNN enhanced with Attention Mechanisms

- Developed a remote sensing satellite image classification system using CNN architectures (MobileNetV2, ResNet50, DenseNet-121) enhanced with attention mechanisms like Convolutional Block Attention Module and Squeeze-and-Excitation Block
- Achieved notable test accuracies of 95.39% with MobileNetV2-CBAM, 93.69% with ResNet50-SEBlock, and 89.52% with DenseNet-121-SEBlock, demonstrating the effectiveness of integrating attention mechanisms.
- Successfully combined CNN models with attention mechanisms to focus on essential features, improving overall classification accuracy for complex remote sensing tasks.

AI-Driven Energy Saving Advisor for Smart Homes

- Created an AI-driven application to evaluate and optimize the energy efficiency of household appliances, providing personalized recommendations for energy savings.
- Developed a user-friendly Streamlit-based web app, integrated with LangChain and Google PaLM API, to deliver real-time energy optimization suggestions and support through a chatbot.

Bearing Fault Detection and Diagnosis Using Machine Learning and Vibrational Signal Analysis

- Executed a machine learning project focused on detecting and diagnosing bearing faults through vibrational signal analysis, utilizing algorithms like Random Forest, Decision Tree, and K-Nearest Neighbors.
- Extracted time and frequency domain features using FFT and envelope analysis, enabling precise identification of various bearing defects in machinery.
- Achieved an 80% accuracy with the Random Forest model, demonstrating superior performance across key metrics, including precision (91%) and recall (80%), for reliable fault detection.

Technical Skills

Languages: Python, Java, C,C++, JavaScript, SQL, HTML5, CSS3
Frameworks: ReactJS, TensorFlow, PyTorch, Streamlit, Langchain, Bootstrap

Achievements

Finalist in WWT All India Women Hackathon: Secured a spot among the top teams out of 120+ participants in the *All India Women Hackathon* organized by World Wide Technology for developing an innovative *AI-Driven Energy Saving Advisor for Smart Homes*.

Leadership

Member of Research & Development Vertical of AI Club , Amrita Vishwa Vidyapeetham , Coimbatore