K L Nayana Sree

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EDUCATION

Amrita University   Chennai, India   *October 2022 – April 2026*
B. Tech in Computer Science Engineering
CGPA: 9.44/10.0
Key Courses: Data Structures and Algorithms, Computer Networks, Database Management systems, Machine Learning, Deep Learning, Computer Architecture, Digital Design, Embedded Systems

Nalanda College   Andhra Pradesh, India   *June 2020 - May 2022*
Intermediate
Percentage: 98.2%

SKILLS

Programming Languages: C, Python, C++

Software Engineering: Object-Oriented Programming

Machine Learning & AI: Supervised & Unsupervised Learning, Deep Learning

Frameworks and libraries: TensorFlow, Scikit-learn, NumPy, Pandas

Data Structures & Algorithms: Arrays, Binary search, strings, Linked Lists, Trees, Graphs, Greedy algo, heaps

Computer Networks: Network Protocols, Routing & Switching, TCP/IP, OSI Model, Mobile communication

Databases: MySQL

Soft skills: Technical Communication, Continuous-Learning, Task Organization, Team Collaboration

PROJECTS

Huntington Disease Prediction using EEG Signal and ML   *December 2024 - Present*

- Processed EEG dataset containing 63 subjects with 20-minute recordings across 16 channels, organizing data into a binary classification framework

- Implemented comprehensive signal preprocessing pipeline including 1-45Hz bandpass filtering and epoch segmentation (299 epochs/channel/subject)

- Extracted time-domain features (Hjorth parameters, skewness) and applied Wavelet Transform to generate a 1D array of shapes (512,)

- Achieved 92.85% classification accuracy using Decision Tree Classifier for distinguishing Huntington's disease from control signals

Respiratory sound classification with Customized CNN   *August 2024 – October 2024*

- Developed a classification system for 400 respiratory audio files across 4 categories (Asthma, COPD, Normal, and Other)

- Engineered a robust preprocessing pipeline including data augmentation (0.5s time shift, 0.005 noise level), bandpass filtering (80–1999 Hz), and spectrogram extraction

- Designed and implemented custom 4-layer CNN architecture for deep feature extraction

- Combined multiple spectrogram-based features through feature fusion, achieving 97.5% accuracy with Logistic Regression

AI-driven Energy Management System   *August 2024 - October 2024*

- Collected and processed 10,000+ real-time data points (current, voltage, power, energy) from a PZEM sensor, with data logged every 2 seconds over 3 hours

- Designed a data acquisition pipeline: PZEM sensor connected to a power source, relay, and bulb, transmitting data to a

processing unit for CSV logging, thus obtaining 10,000+ data points

- Developed an LSTM-based predictive model with two layers, each containing 50 neurons, to effectively capture temporal dependencies in the data

- Attained a final MSE of 0.1427, improving prediction accuracy for energy forecasting, contributing to at least a 10% reduction in carbon footprint and decreased energy wastage

CERTIFICATES

SQL – Scaler Academy   *June 2024 - July 2024*

Operating Systems – Scaler Academy   *April 2024 – May 2024*

HACKATHONS

Crea Tech, Larsen & Toubro   *January 2024*

Proposed a deep learning-based image recognition algorithm for wear and tear analysis to enhance machine efficiency, minimize downtime, and maximize profitability

Techathon 5.0, EY   *November 2024*

Proposed a web app design for the financial inclusion of rural women in India

ACHIEVEMENTS

Finalist, Number Nexus, Amrita Vishwa Vidyapeetham   *January 2025*

Secured 5th place in the finals by solving math puzzles that included numbers to calendars

Runner-up, Digital Pen, Amrita Vishwa Vidyapeetham   *February 2024*

Achieved 4th place by building combinational and sequential circuits using logic gates

Runner-up, ML Epoch Runners, Amrita Vishwa Vidyapeetham   *February 2024*

Secured 5th place by predicting heart disease using ML models with an accuracy of 95%