Akshaya Jayakumar

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Education

Vellore Institute of Technology — Bhopal, MP
B.Tech in Computer Science and Engineering with spec. in Health Informatics – 8.33 CGPA — *Sept 2022 – Jul 2026*

Aditya International School — Coimbatore, TN
Class XII – 94.8% — *Apr 2020 – May 2021*

Sri Nachammal Vidyavani — Tirupur, TN
Class X – 90.8% — *Apr 2018 – May 2019*

Technical Skills

C++, Java, SQL, HTML, CSS, JavaScript, React, Angular, MATLAB, Simulink, Excel, Canva, Ubuntu, Docker, Data Structures, Analytical problem solving, Aptitude and logical reasoning

Projects

Diabetes Prediction Using ML Model — *May 2024 - Jun 2024*

- Utilized extensive health survey data sourced from across India for model training and validation.
- Achieved a predictive accuracy of over 90% using ensemble and kernel-based methods.
- Implemented and compared the performance of algorithms including Random Forest and Support Vector Machines (SVM).
- Optimized model hyper parameters and selection criteria to enhance predictive performance and reliability.
- Demonstrated the practical application of ML for early disease detection and public health planning.

Water Quality Prediction Using ML Models — *Dec 2023 - Feb 2024*

- Developed supervised learning models to classify water sample safety, employing algorithms such as Random Forest and Gradient Boosting for optimal accuracy.
- Utilized Python, Pandas, and Scikit-learn for comprehensive data preprocessing, feature engineering, and model training, improving predictive performance by 15%.
- Presented results during a university showcase with a focus on real-world impact, effectively communicating technical findings to a non-technical audience. Engineered key features from chemical property data to better capture patterns related to contamination levels.

Facial Emotion Recognition and Detection — *May 2024 – Dec 2024*

- Developed a real-time facial emotion recognition system using a CNN-based deep learning model trained on the FER2013 dataset, achieving 96.83% test accuracy.
- Integrated OpenCV for live face detection and preprocessing, enabling dynamic emotion classification from webcam feeds for interactive applications.
- Contributed to model validation by testing on external images, documenting the pipeline, and ensuring practical usability and scalability.

Certificates

- Introduction to Artificial Intelligence-NPTEL, IIT MADRAS I Jan - Apr 2024
- HTML, CSS & JavaScript — Coursera (Johns Hopkins University) I Nov-Dec 2023
- Fundamentals of Al & ML — VITyarthi I May 2023
- Simulink Onramp — MathWorks I Sep-Oct 2023

Achievements

NPTEL, IIT Madras: Was one among the 4 students in my branch to get certified with this certificate.
Hacker Rank: C++ Badge.
TCS CodeVita S'12: Participated in the first round among a competitive pool of global participants.
Leetcode: Leetcode 150 .