# ABHINAV AV

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## Objective

Detail oriented engineering student with a strong interest in technology and innovation, aiming to gain practical experience and enhance skills in software development, AI, and engineering applications while adding value to a dynamic team.

## Education

**B.Tech in Artificial Intelligence and Data Science (Pursuing)** 2023 – Pursuing
*APJ Abdul Kalam Technological University | CGPA: 7.43*

**Higher Secondary Education – Computer Science** 2021 – 2023
*GHSS Chalissery, Kerala | 81.5%*

## Projects

**LittleLearners – Bilingual Early Learning App**
A Python based educational application for children under 6, supporting both English and Malayalam. Features interactive letter learning with audio and visual aids, grammar basics, over 10 narrated moral stories, rhyming poems, and shape/color recognition modules, all wrapped in a child friendly UI with voice guidance.

**ParkXplore – Smart Parking Detection (Mini Project)**
A YOLOv11 based smart parking system for real time occupancy detection in unstructured parking environments, using point based slot mapping to identify available and occupied spaces.

**EmotionDetector – Real Time Facial Emotion Recognition**
A real time facial emotion recognition system using webcam input, powered by DeepFace and OpenCV. Detects faces and classifies emotions into seven classes (Happy, Sad, Angry, Neutral, Fear, Surprise, Disgust) with live confidence score bars, and supports screenshot capture of detected moments.

**AASHVAS – Smart Wearable Pain Relief Band (In Progress)**
A smart, wearable digital band designed to provide effective pain relief for individuals suffering from arthritis and joint related discomfort, combining heat therapy, vibration massage, and TENS based stimulation to reduce pain, stiffness, and inflammation. Uses temperature sensing and AI driven pain tracking to monitor user conditions and adjust therapy levels safely and efficiently. Controlled by a microcontroller with Bluetooth connectivity, allowing users to manage therapy settings through a mobile application for personalized, portable, and drug free pain management.

## Experience

**AI/ML Intern** June 2025

*Keltron Knowledge Centre*

- Trained in machine learning concepts, NLP, and core Python libraries including Pandas, NLTK, and TextBlob.
- Worked with Pygame, gTTS, and Google Translate packages to build interactive AI applications.

## Skills

**Programming Languages:** Python, C++, C, Java, HTML, SQL, CSS.

**AI / Machine Learning:** Artificial Intelligence, Machine Learning Concepts, Deep Learning, Agentic AI, Computer Vision, Natural Language Processing (NLP), Scikit-learn, Pandas.

**Frameworks & Libraries:** TensorFlow, PyTorch, OpenCV, YOLO, LangChain, LangGraph, Django, Pandas.

**Tools & Platforms:** Git, GitHub, VS Code, Antigravity, Opencode, ArcGIS, Google Translate API, gTTS, Tkinter, Pygame.

**Databases:** MySQL, Firebase.

**Core Strengths:** Team Building, Communication, English Proficiency.

## Technical Events & Exposure

- Conducted the SIH (Smart India Hackathon) Internal Hackathon in collaboration with the AD Department and IEDC.
- Participated in the INDIA AI SUMMIT (IIT Palakkad) and AGENTCON-2025 Agentic AI Summit.
- Participated in a case study analysis on personal health records.
- Participated in the Bharatiya Antariksh Hackathon, SIH Internal Hackathon, ASAP IDEAFEST, BUILD FOR INDIA Agentic AI Hackathon, HackNova Hackathon, and Cepheus Hackathon.
- Participated in College Ideathons and Paper Presentations.
- Completed Industrial Visit at Inker Robotics.
- PALS Think2Impact – Industry Problem Solving Workshop.
- Robotics Add-on Program – Srishti Innovative Educational Services (5 Days).

## Certifications & Achievements

- Introduction to Software Engineering – Coursera.
- Course Completion in Real World Machine Learning – L&T EduTech.
- The Joy of Computing Using Python (Elite Badge) – NPTEL, IIT Madras.
- English Language for Competitive Exams (Elite Badge) – NPTEL, IIT Madras.

## Languages

- English, Malayalam, Tamil, Hindi