

ATHARVA HONPARKHE

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Education

Indian Institute of Technology, Jodhpur
B.Tech in Electrical Engineering CGPA: 7.84/10

Expected Graduation: 2027
Jodhpur, Rajasthan

D.A.V Public School, Ludhiana
Class 12 – PCM 94.2%

2023
Ludhiana, Punjab

Experience

Indian Institute of Technology Jodhpur
Research-Based Project under Dr. Pratik Mazumder

Aug 2024 – Nov 2024
Jodhpur, Rajasthan

- Designed a Q-learning-based GridWorld simulation for autonomous agents in stochastic environments; achieved a **94% step reduction** and **3.7× reward improvement** over random baselines.
- Developed an interactive simulation interface using **Tkinter**, including Q-value heatmaps and episodic graphs to analyze learning over **100+ training episodes**.

Projects

PlaWorDet — Deep Learning, Streamlit, MLP Architectures, Positional Embeddings



- Engineered a scalable **MLP-based** valuation engine trained on a curated dataset of **100K+** FIFA 17–23 player records, integrating positional metadata, team chemistry, and performance indicators; achieved **78.3%** validation accuracy with strong correlation to real-world transfer values.
- Designed and deployed a polished **Streamlit** interface for real-time data input, interactive valuation visualizations, and smart bidding recommendations, enhancing user engagement for auction scenarios.

Linguistix — Speaker Identification, MFCC, PCA/LDA, GMM Clustering



- Developed an advanced speaker recognition framework using **MFCC**-based acoustic embeddings, supervised dimensionality reduction (PCA/LDA), and hybrid ensemble voting strategies; tested on **2.5K+** voice clips from 50 distinct speakers.
- Surpassed traditional clustering baselines by achieving **100%** accuracy with **ANN+LDA** and **99.67%** with **GMM**, demonstrating robust performance even in high-variance, low-sample settings.

Track Tracer — C, TCP Socket Programming, Authentication, File Systems



- Developed a **TCP**-based client-server train reservation system in C, capable of handling **50** concurrent user requests with dynamic seat matrix updates, persistent storage, and sub-**200ms** response time for high efficiency.
- Implemented secure 4-digit OTP-based authentication, robust seat allocation for **5+** trains, and persistent booking logs stored in file systems to maintain offline accessibility.

Technical Skills

- **Languages:** Python, C++, C, SQL, HTML/CSS, JavaScript, Verilog, VHDL
- **Technologies:** TensorFlow, PyTorch, scikit-learn, NumPy, Pandas, OpenCV, MongoDB, Gemini LLM, Streamlit, Flask, React, Android Studio, Pygame, Firebase
- **Utilities:** Git, GitHub, VS Code, \LaTeX , Linux, Docker, Arduino IDE

Relevant Courses

- **IITJ Coursework:** Pattern Recognition and Machine Learning, Data Structures and Algorithms, Probability Statistics & Stochastic Processes
- **Online:** Deep Learning Specialization (Coursera), Introduction to Networking (Udemy)

Achievements

- Achieved **A-** grade in Introduction to Computer Science Engineering.
- Ranked in the top **0.77%** among **1.2M+** candidates in JEE Main 2023.

Extracurricular & Positions of Responsibility

Student Guide, Student Wellbeing Committee, IITJ

2024 – 2025

Mentored 12 freshmen, supporting academic and emotional growth; contributed to 5+ wellness drives.

State-Level Handball Player

2017 – 2023

1st in Zonals, 2nd in District, qualified for State Tournaments.