ATHARVA HONPARKHE

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 • ■ Atharva Honparkhe
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 ♣ Portfolio
 ♦ Codeforces

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%

Ludhiana, Punjab

2023

Experience

Indian Institute of Technology Jodhpur

Research-Based Project under Dr. Pratik Mazumder

 $August\ 2024-November\ 2024$

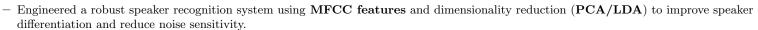
Jodhpur, Rajasthan

- Devised a Q-learning-based GridWorld simulation for autonomous agents in stochastic environments; realized a 94% step reduction and 3.7× reward improvement over random baselines.
- Constructed an interactive simulation interface using Tkinter, featuring Q-value heatmaps and episodic graphs to monitor agent performance over 100+ training episodes.

Technical Projects

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

February 2025 - April 2025



- Achieved 100% accuracy with ANN+LDA and 99.67% with GMM across 2.5K+ audio samples from 50 speakers, outperforming standard clustering approaches.
- Orchestrated a modular experimentation suite enabling dynamic evaluation of ANN, GMM, and SVM models, streamlining comparative analysis via automated metrics tracking.

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

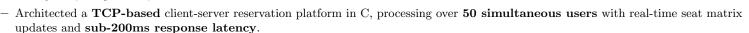
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January 2024 - April 2024

- Devised an intelligent MLP-based valuation model leveraging 100K+ FIFA records, capturing correlations between performance metrics, team dynamics, and transfer values.
- Deployed an interactive Streamlit dashboard for real-time user queries, showcasing predictions, insights, and valuation trends through responsive visualizations.
- Integrated learned positional embeddings and feature scaling to enhance generalization across unseen data; achieved 78.3% validation accuracy.
- Implemented seamless live updates connecting user edits with backend prediction engines, improving feedback responsiveness without full model reinitialization.

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

February 2024 - April 2024



- Instituted a secure OTP-based login protocol with file-based credential verification to ensure authentication integrity and minimize breach risk.
- Implemented multi-threaded concurrency control with mutex-guarded operations to guarantee race-free execution during ticket bookings across 5+ trains.

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)

Awards & Achievements

- Earned an A- (Top 10%) in Introduction to Computer Science Engineering, demonstrating strong grasp of algorithms and programming logic.
- \bullet Ranked in the top 0.77% among 1.2M+ candidates in JEE Main 2023, reflecting national-level academic excellence.

Leadership & Extracurricular

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