Rudra Chudasama

+91 93272 33815 | rudra.cict22@pdpu.ac.in | linkedin.com/in/r-udraa |
github.com/RudraaChudasama | leetcode.com/RudraLeet22

Education

Pandit Deendayal Energy University — Gandhinagar, India
Bachelor of Technology in Information and Communication Technology — *Aug. 2023 – Present*

Government Polytechnique — Ahmedabad, India
Diploma in Computer Engineering — *Aug. 2020 – May 2023*

Projects

EyeMD-Eye Disease Detection | *HTML, CSS, JavaScript, Flask, Python, YOLO*

- Built a full-stack web application using HTML, CSS, JavaScript, Flask, and Python, integrating a YOLO-based detection model that delivers disease predictions with 95% accuracy (as per model training results).
- Developed complete backend workflow to process user-uploaded images, generate predictions in under 1.2 seconds, and provide automated remedies + doctor search based on disease type.
- Designed an Admin Dashboard capable of storing and analyzing 1000+ user records, offering visual insights into prediction trends and model performance.
- Implemented responsive UI with dark/light mode, optimized routing, and modular backend code, improving overall user interaction speed by 30% during testing.

TrackMania Autonomous Racing Agent | *Python, tmrl, Tensorflow, OpenCV, Gym*

- TM-RL Library Integration: The TM-RL library enables easy application of Reinforcement Learning in TrackMania, helping agents learn driving skills using rewards for performance metrics like speed and lap times.
- State Representation: The environment is broken down into states like car position, speed, and direction, which the agent uses to decide actions based on the current scenario.
- Actions such as steering, accelerating, and braking are defined, allowing the agent to choose the best moves for optimal performance in the game.
- Deep Q-Learning is employed to train the agent using a neural network that predicts the best action to take at each state, optimizing performance and learning from trial and error

KingTrap - Chess Engine | *Python, Object Oriented Programming Concepts Git*

- Developed an AI-driven chess engine using Minimax with Alpha-Beta Pruning, reducing search space by up to 70% compared to naive Minimax, enabling evaluation of 30K nodes at depth-4 in under 9 seconds.
- Implemented full move legality and optimized gameplay (including en passant, castling, and checkmate detection) with a responsive PyGame-based GUI, achieving smooth two-player and AI modes.
- Prototyped Monte Carlo Tree Search (MCTS) for adaptive decision-making, achieving 72% win-rate parity with Alpha-Beta in test matches, demonstrating extensibility for advanced AI algorithms.

Experience

Smart Irrigation System – SSIP Project — June 2023 – July 2023
Governmenr Polytechnique — *Ahmedabad, IN*

- Participated in Gujarat Government's SSIP (Student Startup and Innovation Policy) during diploma studies.
- Built a Smart Irrigation System using Python and IoT to automate and optimize water usage in farming.
- Gained exposure to real-world innovation processes with mentorship and support for prototyping under SSIP.

Data Science and Machine Learning Intern — May 2025 – July 2025
Brainybeam Info Tech — *Ahmedabad, IN*

- Completed 25+ practical tasks across data preprocessing, visualization, and ML model building using Python libraries such as Pandas, NumPy, Matplotlib, and Scikit-learn with 85% task accuracy.
- Explored supervised learning (SVM, Decision Trees, Naive Bayes) with hands-on model tuning and visual analytics using Seaborn, Power BI, and Streamlit, while maintaining structured weekly documentation.

TradeX - Cryptocurrency & Forex Trading Web App | *React.js, JavaScript, APIs* — *Git link* | *live link*

- Optimized Performance: Reduced page load time by 40% through efficient code refactoring and implementation of lazy loading.
- Integrated with Blynk app for real-time monitoring and remote control via smartphone.
- Automated pump activation based on sensor data, reducing water waste by 50% and enabling scalable smart farming.

Technical Skills

Languages: Java, Python, C/C++, JavaScript, React, SQL (Postgres)
Frameworks: Node.js, .NET, WordPress, MongoDB
Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm, Sub-lime
Libraries: Pandas, NumPy, Matplotlib
Relevent Courses: Data Structure and Algorithms, DBMS, OS, Computer Networks