Chirayu Nilesh Chaudhari

Student

Bengaluru, India 8928833477 me.chirayu.6@gmail.com GitHub

Summary

Driven second-year Artificial Intelligence & Data Science student with a strong foundation in **full-stack development**, **machine learning**, and **hardware integration**. Proven ability to lead and collaborate on technical projects and campus events. Eager to contribute my diverse skills to help solve complex, real-world challenges.

Skills

Python, Data Structures & Algorithms, JavaScript, React, Node, Next, Java, AI/ML, Raspberry Pi

Experience

Intern May 2025 – Jul 2025
SigNoz, Bengaluru, Karnataka

- Architected and developed a Model Context Protocol (MCP) server from scratch using Node.js and TypeScript to streamline data access for AI-powered clients.
- Integrated official SigNoz APIs to fetch and process real-time trace and log data, enabling comprehensive observability.
- The server was engineered to ensure seamless accessibility from various GPT-based clients, including Cursor, Windsurf, and Claude.
- Conducted research on existing solutions, such as Honeycomb's MCP, to improve the server's design and implementation strategy.

Projects

Gesture-Based Hill Climb Racing Aug 2025 – Aug 2025
Created a Python project using MediaPipe and OpenCV that allows a user to play the Hill Climb Racing game using hand gestures, where showing your open palm is gas and showing a fist is brake.

LLM Optimized Synthesis of Gold Nanoparticles Jan 2025 – Jul 2025
Engineered a novel system using a Large Language Model (LLM) via the Gemini API and a Keras deep learning model to optimize the synthesis of Gold Nanoparticles (AuNPs) for cancer treatment. The system predicts AuNP properties from synthesis parameters and leverages the LLM to analyze results and provide intelligent suggestions for process improvement.

Energy Conservation with Custom LWT Jan 2025 – Jul 2025
Implemented a custom Lifting Wavelet Transform (LWT) from scratch for data preprocessing, which was then used in a custom Neural Network for energy consumption analysis. Also developed a UI for users to apply the LWT to their own N-D datasets.

The Effects and Classification of Psychoactive Substances: A Machine Learning Approach Sep 2024 – Jun 2025

Developed a multi-stage machine learning application with a Flask front-end to predict psychoactive substance use from personality traits, forecast behavioral traits, and classify substances based on chemical properties.

Hack Flappy Bird Jan 2025 – May 2025

Developed a Flappy Bird game using the Jack language, featuring procedural world generation and power-ups, designed to run on the Nand2Tetris Hack computer.

Lightweight Vehicle Tracking System Oct 2024 – Feb 2025

Developed and compared Contour and Hough Transform lightweight tracking algorithms in Python with OpenCV to enable an RC car to follow paths autonomously. The system used a Raspberry Pi for real-time video processing and motor control, and the findings were published in an IEEE conference paper.

Molecular Dynamics: Analysis of a Polymer Nov 2024 – Nov 2024

Conducted molecular dynamics simulations of a polymer using GROMACS and performed a comprehensive trajectory analysis with MDAnalysis to assess the molecule's structural stability, flexibility, and interactions by calculating properties such as RMSD, RMSF, and Radius of Gyration.

Discord Bot Sep 2020 – Nov 2022

Developed a multi-functional Discord bot using Node.js and the discord.js library, featuring commands for music playback from YouTube, user management (kick/ban), and message moderation. This project demonstrates proficiency in API integration and the creation of interactive, automated tools.

Education

Bachelor's of Technology in Artificial Intelligence & Data Science Aug 2024 – May 2028
CGPA: 9.33
Amrita Vishwa Vidyapeetham, Bengaluru, Karnataka

- **Relevant Coursework:** Computational Thinking, Elements of Computing, Object Oriented Programming, Data Structures & Algorithms, Modeling, Simulation & Analysis, Introduction to Robotics, Software-Defined Communication Systems, Advanced Data Structures & Algorithm Analysis, Introduction to AI and Machine Learning, Introduction to Computer Networks, Introduction to Biological Data, Introduction to Material Informatics, Introduction to Electrical and Electronics.

Clubs:

- IEEE Computational Intelligence Society: Learning and collaborating with peers. Conducted a session on GenAI as the main speaker.
- IEEE Special Interest Group on Humanitarian Technology: Promoting and spreading awareness on how technology can be used to solve societal and impactful humanitarian problems.
- Toastmasters International: Learning how to improve my Networking and Conversational skills.
- JIDO Automation Club: Helped Conduct multiple workshops and events on and off campus.
- Rover Team AVV-B: Assisting in the creation of the new rover for the Rover Contest.

Papers Published:

- Chirayu Nilesh Chaudhari, et al. 'Contour based tracking vs Hough transform based tracking: A RC Car experiment.' *3rd IEEE World Conference on Communication & Computing (WCONF-2025)*, Kalinga University, 2025.

Languages

English	Native Speaker
Marathi	Native Speaker
Hindi	Highly Proficient
French	Conversational

Interests & Hobbies

- **Music:** Accomplished guitarist, having achieved Trinity Grade 5 certification.
- **Sports:** Avid badminton player, committed to an active lifestyle.
- **Fitness:** Dedicated to weightlifting and maintaining a consistent workout regimen.
- **Culinary Arts:** Enjoy exploring diverse cuisines through cooking.