Chetan Arora

Bachelor of Technology
Computer Science and Engineering
Indian Institute of Technology, Bhilai

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech., CSE	Indian Institute of Technology, Bhilai	8.96	2022-present
Senior Secondary	Central Board of Secondary Education	94.2%	2022

EXPERIENCE

- **RECOGX[Certificate],[▶]** *April 2024 - May 2024*
  React Native application development intern Remote
  - Developed a cashless smart card system, serving **10,000+ students** across various institutions in India.
  - Implemented the backend using the **MERN stack** and created a user-friendly mobile app with **React Native**.

FELLOWSHIP

- **Smart Attendance System** *Jan 2025 - present*
  TIH Fellow, IIT Bhilai
  - Developing a biometric smart attendance system using **RetinaFace** for face detection and **FaceNet** for face recognition, integrated with **RFID** technology (ISO/IEC 14443) for **secure authentication**. Built on the **MERN** stack, the system **automates attendance marking, saving 100% of classroom time** spent on manual attendance.
  - Authored a review paper on face detection and verification techniques, with a focus on deep learning-based approaches, submitted to **ICCV 2025**.

ACHIEVEMENTS

- **Competitive Programming and problem solving**
  As an enthusiast in Algorithms I have solved 1000+ DSA questins and participated in over 30+ contests.
  - Specialist @ codeforces (max rating 1456) Codeforces, Leetcode profile - Leetcode
  - 4th in Intra-College Trustathon hackathon based on CDAC device TrusToken - Github

PROJECTS

- **Manim Gen - Google Hack2skill hackathon** *March 2025-present*
  Flask, Agentic AI, LLMs, AWS [⏻]
  - Engineered a **agentic RAG** based pipeline that converts YouTube lectures into interactive Manim-rendered animations using Gemini-based content extraction and LaTeX generation.
  - Designed an LLM-driven architecture with a **Planner Agent** for **semantic chunking** and **keypoint extraction**, and a **Codegen Agent** for **dynamic scene generation**.

- **ML Project - Metro Line Prediction System** *October 2024 - November 2024*
  Flask, Pytorch, Graph Neural Networks [⏻]
  - Developed a machine learning model and a software to predict the **optimal metro line** for public based on factors like **location, suburb, district and population** collected from OpenStreetMap and overpy.
  - Preprocessed and analyzed large datasets consisting of districts, population achieving **91% prediction accuracy** using the **Graph convolution model** on our custom created city graphs.

SKILLS

- **Programming Languages:** C,C++,Python,Java,Shell Script,Javascript,PHP,Typescript

- **Technologies**: NodeJS, React, React Native, Pytorch ,MongoDB, PostgreSQL, Langchain, Agentic AI

- **Tools**: Git, Docker, LaTeX, Arduino IDE,Gurobi,Adobe Illustrator, Figma,

KEY COURSES TAKEN

- **Computer Science and maths** Algorithm & Data Structure, Operating System, DBMS, Probability and statistics, Linear Algebra, Calculus, Discrete Math , Computer Networks, Cryptography, Nand2Tetris , Machine Learning, Principles of Programming Languages, Theory of computation, Compiler Design , Computer Organisation and Architecture, Digital Image Processing, Quantum Computing, Graph Theory, Network Science

POSITIONS OF RESPONSIBILITY

- **Contingent Lead**,Inter IIT Tech Meet 2024, IIT Bhilai *Oct 2024 - Dec 2024*
- **Coordinator**,The Epsilon Club(Robotcs Club), IIT Bhilai *Apr 2024 - present*
- **Coordinator**,Student Mentorship Coordinator(SMP), IIT Bhilai *Apr 2024 - present*