

AYUSH ARORA

AI & Full Stack Developer | Incoming CS Undergraduate, BITS Pilani

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EDUCATION

CS Undergraduate @ BITS Pilani

Expected 2029

Birla Institute of Technology and Science, Pilani | One of India's premier engineering institutions

ACHIEVEMENTS & AWARDS

- International Rank 1 — IOM Level 2 (Mathematics Olympiad, Class 11)
- International Rank 10 — IOM Level 3 (Mathematics Olympiad, Class 11)
- Global Olympiad rankings: Rank 78 in IOM, Rank 176 in IOS, Rank 273 in IOI (Class 12)
- Class 12 Boards: 95% overall; Highest Physics score across the school network
- Class 10 Boards: 91% overall
- Elected House Captain — led student body, coordinated school-wide events and initiatives

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, Java, SQL, HTML5, CSS3

Frontend: React, Next.js, Tailwind CSS, Vite, Framer Motion, Vanilla JS / DOM

Backend & APIs: Node.js, Express, REST APIs, JWT

Databases: PostgreSQL, MongoDB, MySQL, Firebase

AI / ML: OpenCV, MediaPipe, Stable Diffusion, TensorFlow, PyAutoGUI, Prompt Engineering

Tools & Infra: Git, GitHub, Docker, Linux, Vercel, Postman

PROJECTS

AI-Powered Game Controller

Python · OpenCV · MediaPipe · PyAutoGUI

- Built a hands-free game controller that captures real-time webcam feed and translates hand gestures into keypress events — eliminating all physical hardware requirements.
- Implemented real-time pose estimation and hand tracking with MediaPipe and OpenCV; optimized frame-processing pipelines to achieve low-latency gesture recognition suitable for active gameplay.

Artifex.ai — Generative AI Media Tool

React · Stable Diffusion · Python · REST APIs

- Hackathon submission (24 hrs): prompt-driven AI image & video generator integrating Stable Diffusion inference pipelines into a Python backend exposed via a RESTful API.
- Designed and connected a polished React frontend, delivering a seamless text-to-media experience under tight time constraints.

Flavor Forge — Recipe Finder

React · Tailwind CSS · Axios · Vite

- Architected a multi-dimensional search system (ingredient, category, region) backed by public recipe APIs; implemented a LocalStorage-based Favorites module for client-side persistence without a backend.
- Handled API rate limits and edge cases with graceful error handling, ensuring high reliability in production.

Debt of Seconds — Browser Arcade Game

Vanilla JS · HTML5 · CSS3

- Built in 12 hours at a Hack Club hackathon with zero game engine: custom game loop via `requestAnimationFrame`, hand-crafted physics constraints, mathematics-based collision detection, and animated DOM state transitions.

Bakery Management Software

Python · MySQL · Tkinter

- Designed a fully normalized relational database schema for inventory and transaction management; built a terminal-based interface using `Tabulate` to generate formatted daily sales reports and automated receipts.

References and project links available on request | ayush.in