

Mridul Balani

High School Student
at Amity International School, Mayur Vihar

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EDUCATION

| Degree | Institute | Year of Completion |
|---------------|---|--------------------|
| Intermediate | Amity International School, Mayur Vihar | 2025 |
| Matriculation | Amity International School, Mayur Vihar | 2023 |

PROFESSIONAL EXPERIENCE

- **Heurist.ai**
Software Engineer / Freelancer

January 2025 - Present
[Website](#)
- Leading core development on the **Heurist Agent Framework**, implementing Docker Swarm with GitHub CI/CD actions to create a robust production pipeline with safer, streamlined deployments. Built and maintained key agents integrating with DeFi protocols (AAVE), wallet analysis (Zerion, Solana), and intelligence gathering from social platforms (Twitter, Truth Social).
 - Engineered the interface for **Model Context Protocol (MCP)**, connecting Heurist technologies to various LLMs through applications like Windsurf, Cursor, and Claude Desktop. Created an innovative **CLI Utility** to install MCP tools powered by Server-Sent Events (SSE), significantly improving developer onboarding and adoption.
 - Contributed to **Imagine**, a state-of-the-art image generation platform powered by Heurist models, implementing advanced features such as smart generation, and integrating Hunyuan models for video generation.

PROJECTS

- **ClaudeSync**
TypeScript

December 2024
[VSCode Marketplace](#) | [GitHub](#)
- Developed a VS Code extension integrating Claude.ai's Projects API, enabling seamless codebase synchronization and AI assistance directly within the IDE.
 - Built an efficient TypeScript backend with real-time file system watchers, incremental sync capabilities, and configurable middleware for intelligent workspace management.
- **Orchid**
React & Flask

December 2024
[Deployment](#) | [GitHub](#)
- Built a modern image editor using Fabric.js and Tanstack libraries, featuring AI-powered background removal, social media integration, and a marketplace for user-created cosmetics.
 - Engineered a Flask backend with self-hosted S3 storage, implementing rate limiting, OAuth authentication, admin dashboard, containerized and deployed with Docker Compose.
- **CSCTF'24**
Cybersecurity

August 2024
[Deployment](#) | [GitHub](#)
- Led a global Capture The Flag (CTF) competition with 5,000+ participants, securing infrastructure sponsorship from Google Cloud and prize sponsorships from Ottersec, Intigriti, OffSec, and more, totaling \$5,000+ in rewards.
 - Engineered a secure competition platform using **CTFd** and **kCTF**, implementing horizontal pod autoscaling and vertical node scaling on GKE with **NSJail** isolation and Cloudflare for DDoS protection.

CYBERSECURITY ACHIEVEMENTS

- International CTF Competitions (2025):** Competing in **Capture The Flag** (hacking competitions that test various cybersecurity skills) with **Infobahn** (Ranked #1 Globally) and achieved: 1st Place: University of Toronto (UofTCTF), Srdnlen CTF | 2nd Place: Purdue (b01lers), UCLA (LA CTF), Nullcon Goa HackIM | 3rd Place: University of Maryland (UMDCTF).
- National CTF Competitions:** 1st Place: IIT Dhanbad (₹30k), NIT Trichy (₹15k), IIIT Delhi (₹15k), NIT Suratkal (₹12k), MIT Manipal (₹10k), IIT BHU | 2nd Place: IIT Jammu DRDO (₹60k).

TECHNICAL SKILLS & CERTIFICATIONS

- Languages & Frameworks:** Python, TypeScript, JavaScript, Golang, Bash, Flask, Django, FastAPI, React, NextJS
- Infrastructure & DevOps:** Google Cloud, Kubernetes, Docker, GitHub Actions, Cloudflare, Vercel, Terraform
- Libraries & Tools:** VSCode Extension API, CTFd, WASM, PostgreSQL, Redis, Pinecone, NSJail, kCTF
- Certifications:** Cambridge C1 Advanced (CAE) with Grade A1 and distinction | Preparing for OSCP

LEADERSHIP & COMMUNITY

- CodeDay Delhi:** Directed **CodeDay Delhi** at **IIT Delhi**, a premier 2-day hackathon with 1000+ student participants. Led event planning, secured sponsorships, and delivered an advanced game hacking workshop teaching memory manipulation and reverse engineering techniques.
- Inter-School Tech Fest:** As President of the School's Computer Club, spearheaded the 3rd edition of 'Confluence', a major inter-school tech-fest featuring hackathon, CTF, and specialized workshops. Managed a team of organizers and attracted 1000+ participants from across NCR schools, coordinating logistics, sponsorships, and event execution.