

# Harsh Pratap Singh

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🐙 github.com/Harsh-Pratap-Singh

## Education

**VIT Bhopal University**, Bhopal, India

Bachelor of Technology in Computer Science and Engineering, CGPA: 8.87/10.0

September 2022 – May 2026

**Central Academy**, Jabalpur, India

CBSE Class XII, Score: 87.2%

March 2020 – March 2022

**K.V No. 1 G.C.F**, Jabalpur, India

CBSE Class X, Score: 91.4%

March 2018 – March 2020

## Technical Skills

**Programming Languages:** C, C++, Python, Go

**Systems Programming:** Socket Programming, Multi-threading, Windows API, Memory Management

**Database Systems:** MySQL, SQLite, MongoDB

**Web Technologies:** Flask, HTML, CSS

**Development Tools:** Docker, Git/GitHub, GCC, Make, Power BI

## Project Experience

**Multi-Client Chat Server — C, Winsock2, Multi-threading, TCP/IP**

May 2025

- Developed real-time chat application with client-server architecture supporting up to 10 concurrent clients
- Implemented multi-threaded server using Windows threads for independent client handling with critical section synchronization to prevent race conditions
- Designed broadcast messaging system with TCP sockets ensuring reliable message delivery across all connected clients
- Engineered graceful disconnect handling with automatic resource cleanup and departure notifications

**Snake Game — C, Windows Console API, Conio.h, Game Development**

June 2024

- Built classic snake game with smooth rendering using Windows Console API and cursor positioning
- Implemented non-blocking input handling with `_kbhit()` and `_getch()` for responsive gameplay
- Designed collision detection system for self-collision and boundary wrapping with dynamic scoring mechanism
- Optimized rendering to eliminate screen flicker using `SetConsoleCursorPosition()` instead of screen clearing

**Animal Hangman — C, String Manipulation, Game Logic, ASCII Art**

February 2024

- Created interactive word-guessing game with progressive ASCII art visualization showing hangman states
- Implemented random word selection with 10-word animal database and character matching algorithms
- Designed game state management tracking guessed letters, remaining attempts, and win/loss conditions
- Enhanced user experience with visual feedback through 7-stage ASCII art progression and clear game instructions

## Co-Curricular Activities

- **LeetCode Profile:** 🚀 leetcode - Solved 1000+ DSA problems, Global Rank 589/26,000+ in biweekly contests, 500+ day streak, 26 badges earned
- **GeeksforGeeks:** Contest Rating 1770 with peak Global Rank of 3656 in competitive programming
- **1st Place:** Secured 1st Place in Mozilla Club's Coding Quest, showcasing expertise in data structures and algorithms

## Extracurricular Activities

- Literature enthusiast: Read 100+ books including *Siddhartha*, *Animal Farm*, and *The Myth of Sisyphus*
- Philosophy scholar inspired by Confucius, Friedrich Nietzsche, and Albert Camus
- Regional chess player: Competed at regional level in under-14 category, demonstrating strategic thinking
- Completed 8-hour Udemy certification in Mind Mapping for strategic planning and productivity