

ARNAV AGNIHOTRI

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EDUCATION

International Institute of Information Technology (IIIT) Hyderabad

Hyderabad, India

B.Tech in Computer Science; CGPA: 7.8/10.0

July 2024 – May 2028

– **Coursework:** DSA, Operating Systems, Computer Networks, Algorithms, Probability & Statistics, Real Analysis, Computer Architecture

Amity International School

Vasundhara, UP

CBSE – Class 12th: 94.8% (2024), Class 10th: 98.6% (2022)

2010 – 2024

EXPERIENCE

Megathon & Build2Break Hackathons

IIIT Hyderabad / National

Participant

2024

- Collaborated in teams to architect and deploy software prototypes addressing real-world problem statements under 24-48hr constraints
- Performed rapid debugging, optimization, and system stress testing; presented technical demos to industry judges

PROJECTS

Research on Biconnected Components — Python, NetworkX, Matplotlib

GitHub

- Benchmarked graph algorithms (Tarjan, Vishkin-Slota, Maduri) on real-world datasets; visualized time complexity patterns

Network File System — C, Distributed Systems, Pthreads

GitHub

- Engineered distributed file storage with concurrent read access and single-writer consistency using Pthread mutex locks

C-Shell (Unix Shell) — C, Unix Systems Programming

GitHub

- Built Unix shell supporting I/O redirection, piping, signal handling, job control, and process management (bg/fg)

Database Management – Mahabharat — MySQL, SQL, JDBC

GitHub

- Designed relational database with normalized schema; implemented complex queries, CRUD operations, and CLI interface

Network Packet Analyzer — Wireshark, Network Security

GitHub

- Performed deep packet inspection to analyze protocols, identify vulnerabilities, and detect anomalous traffic patterns

Personal Animated Dashboard — HTML/CSS, JavaScript

GitHub

- Developed responsive portfolio dashboard with smooth animations, parallax effects, and performance optimizations

Obstacle Detection Robot — Arduino, C++, Robotics

GitHub

- Engineered autonomous robot with ultrasonic sensors for real-time mapping and collision avoidance (90%+ success rate)

ACHIEVEMENTS & HONORS

Codeforces: Demonstrated proficiency in data structures, algorithms, and competitive programming through consistent performance. (Codeforces Handle)

LeetCode: Solved **problems** with consistent participation in weekly contests; specialized in optimization techniques. (LeetCode Profile)

JEE Main 2024: Secured **AIR 955** among 1.2M+ candidates (top 0.08% nationwide)

JEE Advanced 2024: Achieved **AIR 5094** in one of the world's most competitive entrance examinations

Football: Played football and won many championships at district and state levels

SKILLS

Languages: C, C++, Python, JavaScript, Node.js, HTML/CSS, SQL, Bash, Assembly (x86)

Core CS: Data Structures & Algorithms, Operating Systems, Computer Networks, Distributed Systems, DBMS

Tools & Frameworks: Git, GitHub, Linux, Pthreads, Socket Programming, NetworkX, Matplotlib, NumPy, Pandas, Express.js

Web & Backend: React, Node.js, REST APIs, MongoDB, Firebase, Bootstrap, jQuery

Cyber Security: Cryptography, Reverse Engineering, Network Traffic Analysis

Interests: Competitive Programming, System Design, Open Source, Algorithm Optimization, Member of College Football Team