

# ANSHUL RANA

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## EDUCATION

### Graphic Era Hill University

*B.Tech - Computer Science and Engineering - CGPA - 7.69*

2022 - 2026

*Haldwani, Uttarakhand*

### Doon Convent School

*Intermediate - 70%*

2021 - 2022

*Haldwani, Uttarakhand*

### Doon Convent School

*High School - 75%*

2019 - 2020

*Haldwani, Uttarakhand*

## COURSEWORK / SKILLS

- Data Structures
- OOPs Concepts
- Google Cloud
- Operating Systems
- Machine Learning
- DBMS

## PROJECTS

### CPU Scheduling Visualizer | [React](#), [Next.js](#), [Tailwind CSS](#), [JavaScript](#)

2025

- Designed and deployed an interactive web app to simulate 4+ CPU scheduling algorithms, featuring real-time Gantt chart rendering and performance comparison.
- Engineered reusable React components with Next.js routing, cutting code redundancy by 30%; enhanced responsiveness using Tailwind CSS.

### AQI Index Prediction | [Python](#), [Machine Learning](#), [Streamlit](#)

2024

- Trained a Random Forest model with **86%**  $R^2$  score to predict PM2.5 and AQI from temperature, humidity, and wind speed data.
- Fetched weather data from public APIs and plotted AQI levels over time using Streamlit.
- Added AQI alerts and displayed related health tips based on standard air quality thresholds.

### Calorie Burn Prediction System | [Python](#), [Machine Learning](#), [Streamlit](#)

2024

- Architected a calorie prediction model using XGBoost with **98%** test accuracy on 15,000+ data points.
- Processed biometric and workout attributes (heart rate, BMI, duration, etc.) through rigorous feature engineering and scaling.
- Launched a real-time prediction interface using Streamlit, achieving sub-200ms response times for user input.

### Text to Speech Converter | [JavaScript](#), [HTML](#), [CSS3](#), [JavaScript](#)

2023

- Implemented a browser-based text-to-speech solution leveraging the Web Speech API with 10+ voice options and multilingual support.
- Optimized user experience by applying asynchronous JavaScript to eliminate UI blocking and reduce speech latency by 50%.

## TECHNICAL SKILLS

**Languages:** JavaScript, PHP, HTML5, CSS3, Python

**Frontend Frameworks:** React.js, Next.js, Tailwind CSS, Streamlit

**UI/UX Tools:** Figma, Git/Github, Netlify

**Testing Dev Tools:** Chrome DevTools, ESLint, VS Code

## CERTIFICATIONS

- Foundational C# with Microsoft | freeCodeCamp
- Explore Machine Learning Using Python | Infosys SpringBoard
- Python for Data Science | Infosys SpringBoard

## EXTRACURRICULAR

- Semi-finalist in Code Gladiators 2024 and 2023 — one of India's largest coding contests.
- Participant in HackOn with Amazon (Season 4) and Hero Campus Challenge (Season 9).
- State Champion (2019) and National Runner-up (2018, 2019, 2021) in Kyokushin Full Contact Karate tournaments.