

# Monik

Roll No.: 2K22/CO/289

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## EDUCATION

Year	Degree	Institute	CGPA/%
2022 – 2026	B.Tech	Delhi Technological University (DTU), New Delhi	8.42 CGPA
2022	12 <sup>th</sup> CBSE	School	86%
2020	10 <sup>th</sup> CBSE	School	86%

## PROJECTS

- **Sound Sage**
  - Developed a full-stack web app that converts instrument audio into MIDI, using a React frontend and FastAPI backend with real-time file processing.
  - Trained a two-headed CNN in TensorFlow to predict pitch (octave + note) from mel spectrograms of 0.5s audio segments and achieved 98 percent accuracy for both octave and note classification; used onset detection, dynamic segmentation, and noise augmentation for robustness.
- **Uber Clone**
  - Custom Authentication: Built a secure user registration and login system from scratch using Node.js, with password hashing via bcrypt and stateless session management using JSON Web Tokens (JWT).
  - Interactive Geolocation: Integrated the Google Maps API to enable address autocomplete, display interactive maps, and calculate routes and travel times for ride booking.
  - Real-Time Capabilities: Leveraged Socket.IO to create a persistent, low-latency connection for features like real-time driver location tracking on the map.
  - Robust Backend: Developed a RESTful API with Express.js and Node.js, utilizing Mongoose schemas for structured data modeling and interaction with the MongoDB database.
- **Quick Chat**
  - Real-Time Communication: Integrated Socket.IO to create a low-latency, bidirectional communication channel between users for instant messaging.
  - Secure Authentication: Implemented robust user registration and login functionality with password hashing (bcrypt) and stateless authentication using JSON Web Tokens (JWT).
  - Modern Frontend: Developed a clean, responsive, and intuitive user interface using React.js
  - Scalable Backend: Built a RESTful API with Node.js and Express.js for handling user data, messages, and chat management, with data persistence in a MongoDB database.

## ACHIEVEMENTS AND CERTIFICATIONS

- **JEE (Joint Entrance Examination) 2022** – Secured 96.7 percentile, highlighting strong analytical and quantitative aptitude.
- **LeetCode** – Solved 700+ problems, consistently ranked in top 13%, with experience in optimizing time and space complexity for a wide range of DSA challenges.

## TECHNICAL SKILLS

- **Languages:** Python, JavaScript, C++, HTML, CSS
- **Frameworks / Libraries:** React.js, Node.js, Express.js, Tailwind CSS, TensorFlow, Pandas
- **Databases:** MongoDB, MySQL
- **Tools / Technologies:** Git, GitHub, VS Code, Postman, Vite, Webpack, Socket.IO, REST APIs
- **Machine Learning / AI:** Convolutional Neural Networks (CNNs), RNNs, LSTMs, Audio Feature Extraction

## LINKS

- **GitHub:** [kinomfx](#)
- **LeetCode:** [monikrayu](#)