

# Vishwas Singh

Guwahati, India

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## EDUCATION

### Indian Institute of Information Technology, Guwahati

Bachelor of Technology in Computer Science and Engineering

Aug 2023 – Present

**CGPA: 8.1**

*Coursework:* Data Structures & Algorithms, Operating Systems, DBMS, Computer Networks, Artificial Intelligence, Digital Image Processing.

## TECHNICAL SKILLS

- **Languages:** C++, Python, TypeScript, JavaScript, Java, SQL, HTML/CSS
- **Frameworks & Libraries:** React.js, Node.js, Vite, Tailwind CSS, TensorFlow, PyTorch, YOLOv8, PaddleOCR
- **Tools & Platforms:** Docker, Git/GitHub, Postman, Google Gemini API, Linux
- **Databases:** MySQL, MongoDB

## PROJECTS

### AlgoMaster with AI

*React 19, Node.js, TypeScript, Google Gemini API*

- Developed an intelligent DSA mentorship platform using **Node.js** and **React 19**, integrating **Google's Gemini API** to provide real-time code analysis and interactive mock interviews.
- Implemented a secure **JWT authentication** system using the ‘jose’ library, featuring automatic token rotation and local data persistence for tracking user progress.
- Architected a responsive UI with **Vite** and **Monaco Editor**, creating a seamless coding environment that tracks study metrics and topic completion.

### Advanced Automatic Number Plate Recognition (ANPR) System

*Python, YOLOv8, PaddleOCR, OpenCV*

- Architected a 6-stage detection pipeline integrating **YOLOv8** for localization and **PaddleOCR** for high-accuracy text extraction on live video feeds.
- Engineered a **Restoration Bridge** utilizing **Morphological Operations** and Perspective Transformation to correct skewed angles and enhance low-quality CCTV footage.
- Implemented **Homoglyph Analysis** post-processing algorithms to correct common OCR errors (e.g., '0' vs 'O'), optimizing alphanumeric recognition accuracy.

### CineSentiment: Movie Review Analyzer

*Python, Keras, Streamlit, Docker*

- Designed a sentiment classification system for IMDB reviews using **Recurrent Neural Networks (RNNs)** and custom embedding layers.
- Engineered a production-ready REST API using **Flask** and an interactive frontend with **Streamlit** for real-time inference.
- Optimized training performance using the Adam optimizer and implemented Early Stopping to prevent overfitting on a 25,000-sample dataset.

## ACHIEVEMENTS

- Solved **330+** Data Structures & Algorithms problems on LeetCode; Achieved a max rating of **1414+**.
- Maintained active GitHub repositories demonstrating proficiency in Deep Learning architectures and Full Stack Web Development.