



# SUDHIR KUMAR

Master of Technology  
computer Science & Engineering  
National Institute of Technology, Durgapur

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## EDUCATION

- **National institute of Technology, Durgapur** 2024-2026  
Master of Technology in Computer Science and Engineering CGPA: 7.73
- **Pranveer Singh Institute of Technology** 2020-2024  
Bachelor of Technology in Computer Science and Engineering, Uttar Pradesh CGPA: 8.06

## EXPERIENCE

- **Backend Developer Intern – NIT Durgapur ERP Server** December 2024-January 2025  
Backend Developer / Tech Stack: Django, PostgreSQL, REST API
  - Engineered and maintained a Django-based **Content Management System (CMS)** used by over **1,500+ students and faculty**
  - Gained hands-on experience in reducing query **execution time by 30%** and enhancing database performance using Django ORM optimization and **indexing**.
  - Built and secured **Role-Based Access Control (RBAC)** for **3 key user roles** (Admin, Faculty, Staff),
  - Led testing and documentation efforts, **resolving 20+** bugs and improving maintainability.

## PERSONAL PROJECTS

- **Non Invasive Anemia Detection**  
Current project / Tech Stack: Python, OpenCV, ResNet, 3D-CNN, LSTM
  - Developing a device-based solution for anemia detection through palm and nail pallor analysis.
  - Designed and trained models (ResNet + LSTM, 3D CNN) to process over **1,000+** video frames, achieving **RMSE under 0.9** on validation data.
- **Minify URL** Live Demo  
Completed / Tech Stack: ReactJS, NodeJS, Supabase
  - Deployed a **full stack** URL shortener using **ReactJS, NodeJS, Supabase**.
  - Implemented **QR code** generation for 100% of shortened URLs, enabling mobile-friendly sharing and access.
  - Captured detailed **click analytics** including **timestamp, IP address, and click count**, with over **1,000+** total clicks tracked.
  - Integrated **API security & Authentication** system for secure user **registration, login**, and access control.
- **Travel path planner** Live Demo  
Completed / Tech Stack: JavaScript, Dijkstra's Algorithm, vis.js
  - Created a static, interactive web app to plan shortest paths with custom travel rules (**1 flight allowed, rest by bus**).
  - Engineered an algorithm leveraging **Dijkstra's** method to determine fastest travel routes via bus or plane, processing **50+ nodes** in under 200ms, enabling immediate user feedback
  - Visualized over **50+ nodes** using **vis.js** to represent relation between nodes.
  - Simulated and validated **100+ travel paths** to ensure algorithmic reliability.

## TECHNICAL SKILLS AND INTERESTS

**Languages:** C++, Python  
**Developer Tools:** Git, Github, VS Code, Docker, Kaggle  
**Frameworks/library:** Django, ReactJS, NodeJs  
**Databases:** MySql, Postgres, SuperBase  
**Certification:** Coursera Accelerated Computer Science Fundamental(C++), Coursera Specialization for Machine,Infosys springboard Python certificate  
**Coursework:** Data Structure and Algorithm, Object oriented Programming(OOPs), Operating System,DBMS  
**Areas of Interest:** Full Stack development

## POSITIONS OF RESPONSIBILITY

- **Training & Placement Representative, NIT Durgapur**  
Coordinated with recruiters and student teams to schedule interviews, manage queries, and ensure smooth communication during the campus placement drive.

## ACHIEVEMENTS

- 800+ questions solved on leetcode, Hackerrank, codechef
- 2024 GATE Qualified with 96.9 percentile