



# Prateek Kumar

Code Architect  
Analytical Strategist  
Web & Backend Engineer  
Computational Optimizer

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## EDUCATION

**City Montessori School (2213946/207)**

June 2021

Percentage: 97.5/100

**Jaypee Institue of Information Technology**

June 2026

B.Tech. Computer Science

Current GPA: 9.1/10.0

## COURSEWORK

Object-Oriented Programming, Data Structures & Algorithms, Operating Systems & System Programming, Machine Learning, Statistics, Big Data Analytics, Database Management & Web Technology

## SKILLS

- **Languages:** C/C++, Java, HTML/CSS, JavaScript, PHP, MySQL, ReactJS, NodeJS, MongoDB, Python, Flask
- **Tools:** Git/GitHub, Postman, Unix Shell, VS Code
- **Soft Skills:** Strategical Leadership, Team Coordination, Analytical Thinking, Technical Communication and Documentation

## PROJECTS

**City Tour Navigation and Optimization System** | C++, SDL2, VS Code

Jan. 2024

- Developed and advanced algorithms (Dijkstra, Prim, Kruskal) to provide features like shortest path navigation, multi-stop route planning, and all-destination traversal.
- Enhanced simulation and user experience by integrating SDL2 for visualizing graph traversal, optimizing time and cost efficiency for city tours.

**Metropolis Assist** | HTML/CSS, JavaScript, PHP, MySQL, VS Code

May 2024

- Designed a web platform to simplify hiring domestic help and vendors, featuring user profiles, advanced search filters, and a dashboard for managing job requests and communications.
- Enabled seamless user interactions through efficient database design and optimized workflows, qualifying among the top 15 teams in IIIT's entrepreneurship hackathon, Ride-Hack.
- [GitHub Link](#)

**PCOS Detection Tool** | Python, Machine Learning, Deep Learning, Tensorflow, Flask, Jupyter Notebook, VS Code

Dec. 2024

- Developed a deep learning model using MobileNet, a Convolutional Neural Network, to classify a curated dataset of 1,400 ultrasound images into PCOS-positive and PCOS-negative categories, achieving a 94% classification accuracy.
- Integrated Explainable AI (XAI) techniques such as Grad-CAM to generate heatmaps, enhancing interpretability by highlighting image regions influencing predictions and addressing the black-box nature of AI models.
- Built a Flask-based web interface to allow clinicians to visualize predictions and Grad-CAM heatmaps, ensuring both accessibility and trustworthiness in AI-driven healthcare diagnostics.
- [GitHub Link](#)

**GoBo Rides – Ride Booking Platform** | MongoDB, Express.js, React, Node.js, Tailwind CSS, VS Code, Postman

April. 2025

- Developing a full-stack ride-booking platform with real-time location tracking, offering seamless user experience for riders and drivers.
- Integrated Mapbox API for dynamic route mapping and ride fare estimation, ensuring accurate and efficient navigation.
- [GitHub Link](#)

## ACHIEVEMENTS

- **Ride-Hack IIIT (May. 2024):** Secured a position in amongst top 10 in the Hackathon having 50+ participating teams, demonstrating innovation, teamwork and great presentation skills
- **Leetcode:** Solved 650+ problems with a decent 1676(max) rating, demonstrating strong problem-solving skills.
- **Codeforces:** Achieved a 1090(max) rating with 170+ problems solved, highlighting competitive programming expertise.