Pratham Handa

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EDUCATION

Thapar Institute of Engineering & Technology Patiala, IN
*B.Tech. in Computer Science & Engineering (**CGPA - 9.75**)* *Aug. 2023 – June 2027*

D.A.V. Public School, Ludhiana Ludhiana, IN
Senior Secondary Examination CBSE (Percentage - 96.0%) *Apr. 2022 – Mar 2023*

WORK EXPERIENCE

Full Stack Developer Intern *Apr. 2025 – Present*
DBuck *Patiala, IN*
- Developed a full-stack web app for a **student housing startup** using React, Express.js, and MongoDB.
- Built features like interactive listings, location search, and a landlord **portal for 10k+ students**.

PROJECTS

Brain Tumor Detector | *Python, PyTorch, YOLO, SAM, Streamlit* (GitHub | Live) *Jul. 2025*
- Architected a 3-stage deep learning pipeline for precise tumor segmentation, achieving **99.3% classification accuracy** and a 97.2% IoU score.
- Formulated a real-time diagnostic tool providing quantitative tumor analysis to aid surgical planning via high-precision, **pixel-level tumor masking**.

AI-RoadIntelligence | *Python, YOLOv8, OpenCV, SUMO, SightEngine API* (GitHub) *Jun. 2025*
- Engineered a real-time **traffic congestion reduction** system using YOLOv8, processing video inputs & concurrent **YouTube live streams** at 45 FPS with less than 50ms processing latency.
- Integrated Machine Learning models with a SUMO traffic simulator to enable dynamic emergency routing and an **automated alert system** with less than 3 second notification time.

RoomsonRent | *React, Node.js, MongoDB, Docker, Tailwind CSS* (GitHub | Live) *Apr. 2025*
- Deployed a containerized student housing platform with **dual dedicated portals**, using React and Node.js to simplify the rental lifecycle for students and landlords.
- Curated a real-time property search platform with Cloudinary integration **secured by JWT authentication**, handling 1000+ listings with 60% faster load times and a 75% reduction in response time.

TECHNICAL SKILLS

Languages:	C, C++, Python, JavaScript, HTML, CSS, MATLAB, R
Developer Tools:	Git, Docker, POSTMAN, SUMO, Node.js
Frameworks/Libraries:	React.js, Express.js, Pandas, NumPy, Matplotlib, PyTorch, TensorFlow, OpenCV, scikit-learn
Cloud/Databases:	SQL, Firebase, MongoDB
Soft Skills:	Problem Solving, Analytical Thinking, Team Collaboration, Communication
Coursework:	Data Structures and Algorithms, Operating Systems, Database Management System, Object Oriented Programming, Artificial Intelligence, Computer Networks

POSITIONS OF RESPONSIBILITY

Joint Secretary - LEAD Society *Sep. 2023 – Present*
Thapar Institute Of Engineering & Technology *Patiala, IN*
- Built the **LEAD's official website** (leadtiet.netlify.app) with a smooth, user-friendly interface.
- Mentored over 50 students by taking a 2-hour-long workshop on **Data Structures and Algorithms (DSA).**

Technical Head - Technical Seminar On Role Of Steel *Mar. 2024 – Apr. 2024*
Civil Department, Thapar University *Patiala, IN*
- Led technical operations for INSDAG steel seminar, managing logistics, designing, and hospitality.
- Deployed interactive landing page with 102.7% CTR and 500+ users; **hosted presentations** for six speakers.

ACHIEVEMENTS

- **1000+ DSA Questions** solved on Leetcode and GeeksforGeeks, demonstrating proficiency in C++.
- **Student Placement Representative** for the branch of Computer Science & Engineering at TIET.
- **Reliance Undergraduate Scholar** by securing Top 5000 Rank PAN India.
- **Merit I & III Scholarship** received for exceptional academic performance amounting to 8+ Lakhs.