

PARAS BANSAL

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Education

Indian Institute of Information Technology, Allahabad
B.Tech in Information Technology; CGPA: 8.89

Aug 2024 – 2028
Prayagraj, Uttar Pradesh

Golden Earth Global School, Sangrur
Class 12 (CBSE); Percentage: 94.6%

Apr 2023 – Mar 2024
Sangrur, Punjab

Golden Earth Global School, Sangrur
Class 10 (CBSE); Percentage: 97%

Apr 2021 – Mar 2022
Sangrur, Punjab

Key Projects

Samadhaan | *MERN Stack, JWT, Tailwind CSS* | 

June 2025 – Aug 2025

- Designed and developed a scalable **MERN stack** grievance platform supporting **12+ civic issue categories**.
- Engineered a responsive **React.js + Tailwind CSS** frontend, achieving a **25% reduction** in page load time.
- Built a secure **Node.js/Express** backend with reliable **15+ RESTful APIs** and role-based **JWT authentication**.
- Implemented **MongoDB indexing** and optimization techniques, enhancing the admin dashboard's query efficiency and decreasing average API response time by **20%**, ensuring faster user experience.

Energy-Aware Beam-ACO Routing | *C++17, STL, Metaheuristics* | 

Oct 2025 – Dec 2025

- Engineered a hybrid **C++/ACO/Beam Search algorithm**, reducing robotic path-planning costs by **15%**.
- Embedded **Beam Search** (top-K pruning) to focus exploration, improving algorithmic convergence speed by approximately **40%**.
- Devised a novel physics-based cost function accounting for drag and velocity, resulting in a **15% energy efficiency** gain by streamlining power use across routing paths.

Uni-Trade | *Node.js, EJS, MySQL, HTML/CSS/JS* | 

Sept 2025 – Dec 2025

- Developed a full-stack campus marketplace serving **2,000+ students** with **300+ academic listings**.
- Integrated a **MySQL** database with category-based filtering, reducing search latency by **60%**.
- Implemented secure **Regex-based email validation** to ensure **100% student-only** platform access.

Technical Skills

Languages: C++ (STL), C, Java, JavaScript (ES6+), Python(Intermediate), HTML5, CSS3, SQL

Technologies/Frameworks: Git, Github, Linux, React.js, Node.js, Tailwind CSS, NumPy, MongoDB, MySQL

Coursework: Data Structures & Algorithms (DSA), Object-Oriented Programming (OOP), DBMS, Operating Systems, Computer Networks, Theory Of Computation

Coding Profiles

CodeChef (**3 Star**, 1704) 

Codeforces (**Expert**, 1710) 

LeetCode (**Knight**, 1914) 

Achievements

- Expert on Codeforces with a maximum rating of **1710**; ranked **830** among **91,904+** active Indian users and in the **top 5% globally**, with a best contest rank of **451** in Codeforces Round 1066 (Div. 1 & 2).
- Secured global ranks of **181** in CodeChef Starters 202, competing against thousands of participants worldwide.
- Top **38** global finish in LeetCode Weekly Contest 484, highlighting strong algorithmic and problem-solving skills.
- Solved **500+** algorithmic problems across Data Structures, Graphs, Dynamic Programming, and Trees on Codeforces, CodeChef, and LeetCode.
- JEE Main 2024: **AIR 3341** (**top 0.2%** among 1.4 million candidates); JEE Advanced 2024: **AIR 9232**.

Leadership & Volunteering

Head Boy | *Golden Earth Global School*

Class 10

- Led a student **council of 35 members** to organize 10+ large-scale school events, enhancing school-wide communication.

Student Mentor | *Prayaas (Social Service)*

2024 – Present

- Collaborated with a team to mentor **100+ underprivileged students**, creating resources rated 'Excellent' by 90% of attendees.