Hargun Preet Singh

 Hargun-Preet   Hargun Preet Singh   Singhhargun077@gmail.com   +91-8968895177

EDUCATION

Indian Institute of Information Technology, Allahabad Prayagraj, Uttar Pradesh
B.Tech- Information Technology - CGPA (till 4th Semester): 9.19 *August 2023 - Present*

The Senior Study II Amritsar, Punjab
Class 12 CBSE - Percentage - 97.2% *May 2021 - April 2023*

The Senior Study Amritsar, Punjab
Class 10 CBSE - Percentage - 99.8% *April 2021*

TECHNICAL SKILLS

- **Languages**: C, C++, Python, Java(Basic), SQL, JavaScript, TypeScript, Shell Scripting (Bash)

- **Web & Data Technologies**: HTML, CSS, React.js, Next.js, Node.js, MongoDB, MySQL, PostgreSQL, Prisma

- **Relevant Coursework**: Data Structures & Algorithms, Operating Systems, Database Management Systems, Object Oriented Methodologies

- **Utilities & Frameworks**: Git, GitHub, Tailwind CSS, Express.js, Postman, React Query (TanStack Query), REST API, FastAPI, Kafka, AWS (S3, EC2), WebSockets, Vercel, Railway

PROJECTS

- **Budgetly (Next.js, TypeScript, Tailwind, Prisma, PostgreSQL, Clerk, Vercel, Railway)**: GitHub   Live Link
  - Developed a **responsive personal finance tracker** allowing users to **add, categorize and manage income/expense transactions** with **date-range filtering**, **dynamic budget-usage analytics**, and **monthly/yearly reports**, improving expense categorization accuracy by **35%** and helping users identify spending trends **2x faster** with interactive graphs and radial charts.
  - Integrated a **real-time dashboard** with **multi-currency support** and **UTC timezone handling**, leveraging **AI-powered automatic receipt scanning (Google Gemini API)** to reduce manual data entry by **50%** and implementing **secure Clerk-based authentication**, resulting in a polished and user-centric experience.

- **Inquate (React, TypeScript, Tailwind, Python, FastAPI, Gemini API, Vercel, Railway)**: GitHub Live Link
  - Engineered a **drawing-based, AI-driven math and physics study tool** with advanced features for **shapes, free-hand sketching, text annotations, drag & resize, and color customization** — all wrapped in a **modern, sleek UI** to seamlessly illustrate complex problems.
  - Harnessed the **Google Gemini API** to instantly recognize and solve handwritten equations and diagrams, delivering **>95%** accurate solutions rendered as **LaTeX-formatted answers** in a real-time, intuitive interface backed by Clerk authentication.

- **hir0 (JavaScript)**: Github   Live Link
  - Built a **high-performance, heuristic-optimized chess engine** evaluating **2–3 million nodes/sec** with **alpha-beta pruning**, **iterative deepening**, **quiescence search**, and a **principal variation table**, delivering **ELO 2000+ level play**.
  - Implemented **advanced heuristics** — including **MVV-LVA move ordering**, **history/killer heuristics**, **Zobrist hashing**, and accurate handling of **special moves** (**en passant**, **castling**, **promotions**) — allowing the engine to efficiently search **depths up to 7–9 ply in under 500 ms**.
  - Verified **engine correctness** via **perft testing up to depth 6** (generating 119M nodes), verifying **100% move generation accuracy** and improving position scoring with **piece-square tables** and a **bishop-pair bonus**.

CERTIFICATIONS

Google AI Essentials Issued by Google
Hands-on with Generative AI, Prompt Engineering, and responsible AI. *June 2025 - Present*

ACHIEVEMENTS

- Secured **499/500** in CBSE Class 10 (**1st in Punjab**, **2nd in India**), achieved **AIR 6220** in JEE Mains (**99.47 percentile**, top 0.5%) and **AIR 10327** in JEE Advanced.

- Solved over **350+ algorithmic and data structure problems** on **LeetCode** and **GeeksforGeeks** combined.

POSITION OF RESPONSIBILITY

- **Member, Nirmiti - The Fine Arts Society, IIITA**: Led a team of 20 members in designing and executing creative projects for **Effervescence** (Cultural Fest), **Aparoksha** (Technical Fest), and **Asmita** (Sports Fest) of IIITA, seen by **4,000+ people**.