

# Saksham Mittal

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## Education

- **National Institute of Technology, Kurukshetra**  
**December 2021 - June 2025**  
B. Tech. in Information Technology *CGPA: 9.05*
- **Delhi Public School, Indirapuram**  
**April 2020 - May 2021**  
Class XII *97.8%*

## Skills

- **Technical Skills:** Rust, C++, C, Python, Go, PostgreSQL, MySQL, Object Oriented Programming, Networking, Debugging, Code Review, Linux, Git, Concurrency, Database Design
- **Soft Skills:** Teamwork, Decision Making, Time Management, Resilience, Creativity, Problem Solving
- **Languages:** English, Hindi

## Achievements

- **Google Summer of Code**  
Selected among 967 out of 43,765 applicants from 160 countries
- **JEE Mains 2021**  
Got rank 6929; 99.34 percentile
- **JEE Advanced 2021**  
Got rank 6892

## Experience

**Google Summer of Code** *May - August 2023*  
*Open Source Contributor at the Tor Project* (ongoing)  
gitlab.torproject.org/gotlou/arti-sample-project

- Found multiple documentation and concurrency issues in Arti
- Made multiple Merge Requests to fix such issues in the upstream repo and worked with Arti developers
- Wrote a concurrent download manager to fetch Tor Browser over the Tor Network in cases where direct access to the Tor Project's website may be prohibited
- Implemented a compliant DNS over TCP resolver to make A record queries for domain names over Tor as a way to evaluate Arti's ease of use when facilitating non-HTTP connections using Arti

## Projects

### 1. P2P File Transfer

**Link:** github.com/gotlouguit/p2p-file-transfer

**Summary:** Transfer files directly using the power of the Internet with zero servers required

**Details:**

- Designed a custom reliable file transfer protocol
- Can traverse easy NATs to establish a direct connection, avoid a central server and thus virtually reducing hosting fees by 100%
- Learnt about Rust, async network programming, network protocol design, parsing
- Technologies: Rust, Tokio, UDP

### 2. CHIP-8 Emulator

**Link:** github.com/gotlouguit/chip8-emulator

**Summary:** Fast and simple C emulator for the CHIP-8 computer

**Details:**

- Learnt about computer architecture, fetch-decode-execute cycle, emulation
- Technologies: C, SDL

### 3. Vaidhya

**Link:** github.com/vaidhya-web

**Summary:** Book doctors' appointments and tokens for a simpler, hassle-free experience

**Details:**

- Built a backend from scratch, including database design, JWT authentication and REST API creation
- Worked in a two person team, divided up responsibilities and kept clear communication throughout work period
- Technologies: Rust, Tokio, Axum, sqlx, serde, PostgreSQL, JavaScript, TailwindCSS