Saksham Mittal

- **Email:** hi@gotlou.com
- **Website:** gotlou.com
- **GitHub:** github.com/gotlougit
- **LinkedIn:** linkedin.com/in/saksham–mittal
- **Address:** Kurukshetra, Haryana, India

Projects

1. P2P File Transfer
Link: github.com/gotlougit/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. Vaidhya   *2 Person Team Project*
Link: github.com/vaidhya-web
Summary: Web application enabling users to locate nearby doctors based on specialization and city.
Details:

- Implemented distinct functionalities for token purchases, allowing patients to avoid queues, and appointment bookings for specific timings
- Built backend from scratch, including database design, JWT authentication and REST API creation
- Technologies: Rust, Axum, sqlx, PostgreSQL, JavaScript, TailwindCSS

3. sshield
Link: github.com/gotlougit/sshield
Summary: Secure, drop-in SSH agent replacement and key manager
Details:

- Uses encrypted at rest SQLite database for key management
- Allows easy importing of key data from OpenSSH format and uses config to smartly import settings
- Technologies: Rust, rusqlite, SQLite, russh

Experience

Undetect   *January - July 2024*
Software Engineering Intern   undetect.io

- 40+ PRs merged, 180+ commits made
- Improved CI pipeline speed by 90% by using intelligent caching of previous compiles
- Responsible for more than 67% of existing tests to Chrome fork
- Created custom tooling to manage internal Chrome fork's patch-based workflow
- Created custom analysis tool to analyze obfuscated antibot script behavior and generate human readable JavaScript snippets
- Conceptualized and delivered an automated scanning pipeline to use analysis tool to monitor key websites for antibot changes

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

- Found multiple documentation and concurrency issues in Arti, made and reviewed MRs to fix these
- 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
- Created a fast status checking tool for obfs4 bridges in order to generate valuable insight into the overall health of these critical relays, to be used by the Tor Project in production
- Added low-level APIs critical to running pluggable transports in server mode to Arti for future scope

Education

- **National Institute of Technology, Kurukshetra**
  December 2021 - June 2025
  B. Tech. in Information Technology   *CGPA: 8.9*

Skills

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