Mihir Mulchandani

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First-year B.Sc. IT student focused on building security-first web systems with clear trust boundaries and deterministic behavior.

Education

Bachelor of Science in Information Technology
GLS University, Ahmedabad
Expected Graduation: 2028

Skills

Programming: Python, C, JavaScript, TypeScript
Web and Backend: React, Next.js, Node.js, Express, PostgreSQL, MongoDB, Prisma
Security: OWASP Top 10, Access Control Issues, Vulnerability Assessment, Nmap, Burp Suite, Wireshark
Tools: Git, GitHub, Docker, Postman, REST APIs

Projects

KeyOne
One-time, privacy-first message sharing web application
Live Demo

- Implemented client-side encryption using AES-256-GCM via the Web Crypto API.
- Designed the server as fully untrusted with **zero** plaintext visibility.
- Enforced exactly **one** successful decryption per message.
- Implemented **3** irreversible message states: unread, read, destroyed.
- Achieved **0** server-side key storage and **0** recovery paths by design.

MsgOne
Ephemeral encrypted messaging system focused on deterministic behavior
Live Demo

- Built encrypted messaging where the client is the sole security boundary.
- Enforced destructive reads on first access with no replay possibility.
- Eliminated non-deterministic behavior across multiple refresh and retry scenarios.
- Designed the system with **0** cookies, **0** analytics, and **0** tracking.

PalmPong
Gesture-controlled Pong using camera-based input
Live Demo

- Built a real-time Pong game controlled entirely by palm movement via webcam input.
- Used MediaPipe Hands to extract hand landmarks directly in the browser.
- Computed a stable palm center and mapped vertical movement to paddle control.
- Applied smoothing to reduce jitter from noisy real-world input.
- Designed with **0** backend, **0** storage, and **0** data leaving the client.
- Treated absence of input as a valid state by pausing gameplay when the hand disappears.

Secure Pass Check
Client-side password strength evaluation tool
Live Demo

- Built a real-time password strength checker running entirely in the browser.
- Evaluates **5+** common security rules including length and character diversity.
- Uses **0** backend services, **0** storage, and **0** network requests.

Security Experience

- Identified a public-facing access control vulnerability on the college website.
- Administrative files were accessible through URL parameter manipulation.
- Reported the issue responsibly without exploitation or data modification.

Experience

UI and UX Contributor
House of Himalayas (Confidential Project under NDA)

- Improved layout structure and user flow for better usability.
- Focused on clarity and friction reduction rather than visual polish.

Additional

- Strong interest in building systems with real-world security value.
- Comfortable debugging broken flows and learning quickly from failures.
- State-level chess tournament winner.