

Medhansh Garg

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EDUCATION

- **University of Illinois, Urbana-Champaign** Aug. 2023 – May 2027 (Expected)
 - Bachelor of Science in Computer Engineering
- **Micro Bachelors in Cybersecurity** Apr. 2023
 - 9-course program (A grade) covering **auth/access control, network security, and penetration testing**

SKILLS

- **Languages:** TypeScript, Python, C, C++, Java
- **Technologies:** Next.js, Flask, Spring Boot, Docker, GStreamer
- **Hardware:** ESP32, Raspberry Pi, Arduino, MicroPython
- **Security:** Burp Suite, Frida, JADX, Penetration Testing, Reverse Engineering

EXPERIENCE

- **Illinois MicroTech — EOH Project Lead + HackerFab Member** Oct. 2025 - Present
 - Leading UIUC MicroTech's Engineering Open House (EOH) showcase for **50,000 attendees**, Apr. 2026
 - Designing **3-axis stepper-controlled stage ($\pm 5 \mu\text{m}$ precision)** for photolithography wafer movement
- **CS 124 Honors — Lead Web Developer** Aug. 2025 - Present
 - Built UIUC SSO login for website via **CILogon + Banner API** role mapping
 - Leading **11-person dev team** serving **200+ students**
- **Sigpwny, Cybersecurity RSO — Badge Developer** Jan. 2025 - Sep. 2025
 - Engineered DEFCON-style PCB badge (**250 units**) for UIUC-hosted CTF event
 - Designed **ESP32 hardware + MicroPython firmware** with SAO modular expansion
 - Built **frame-buffer LCD display stack** and badge **UI/UX**
- **Care Health Insurance — Cybersecurity Intern** Jun. 2025 - Aug. 2025
 - Identified **60+ internet-exposed services** preventing unauthorized access to confidential company information
 - Reverse-engineered **WAF request-signing**; built **replay attack PoC** in **Burp Suite**
 - Performed Android security testing using **Frida + JADX**; Bypassed **SSL pinning** and **root-detection**
- **IoT++ — Software Engineering Intern** Jun. 2024 - Aug. 2024
 - Improved worker safety in manufacturing plants using early fire detection with **YOLO**
 - Improved detection accuracy by **62%** and **13x** throughput via **pruning + tiling**
 - Deployed **NPU-optimized** inference on Orange Pi using quantization + **GStreamer**
 - Containerized inference with **Docker + Kubernetes** on **Azure**

PROJECTS

- **AlberFlowy** <https://github.com/HackOverflow404/AlberFlowy>
 - Reverse-engineered WorkFlowy private API for full tree CRUD via **Node.js CLI**
 - Built **C++** Albert plugin with **caching + async sync + Google OAuth2 automation**
- **RemoteCam** <https://github.com/HackOverflow404/RemoteWebcam>
 - Built cross-platform **WebRTC** webcam streaming system with **Firebase** signaling
 - **QtPython** Linux client + **Next.js** mobile **PWA** for real-time camera sharing
- **Spotify Wall Art** <https://github.com/HackOverflow404/SpotifyWebController>
 - Repurposed laptop **LCD** with **Raspberry Pi** to build live album-art display, reducing e-waste
 - Integrated **Spotify API** for real-time track data, with synced lyrics, and animations

PUBLICATIONS

- **Biometric authentication and cybersecurity in the digital age - Publication:** MedCrave
 - Reviewed **biometric vs traditional** authentication systems and proposed layered auth model.
DOI: 10.15406/bbij.2025.14.00437
- **Evaluation of Leet Speak on Password Strength and Security - Publication:** IJSRST
 - Authored paper on Leet Speak impact on password strength (**834K+ samples**). DOI: 10.32628/IJSRST229567