

Medhansh Garg

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<https://hackoverflow404.github.io/Portfolio>

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EDUCATION

- **University of Illinois, Urbana-Champaign** Urbana, IL
Bachelor of Science in Computer Engineering Aug. 2023 – May 2027 (Expected)

EXPERIENCE

- **Illinois MicroTech** Urbana, IL
EOH Project Lead + HackerFab Member Oct. 2025 - Present
 - Leading UIUC MicroTech's Engineering Open House technical showcase for **1,000+ attendees**
 - Designing **3-axis stepper-controlled** motion platform for wafer photolithography demo
- **CS 124 Honors** Urbana, IL
Lead Web Developer Aug. 2025 - Present
 - Lead developer for official CS 124 Honors website (**Next.js**, **React**, **Supabase**)
 - Built UIUC SSO login via **CILogon** + **Banner API** role mapping; led **11-person dev team** serving **200+ students**
- **Sigpwny** Urbana, IL
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** Gurugram, India
Cybersecurity Intern Jun. 2025 - Aug. 2025
 - Identified **60+ internet-exposed services** using **Nmap** + **fuzzing**
 - 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** mechanisms
- **IoT++** Remote
Software Engineering Intern Jun. 2024 - Aug. 2024
 - Improved **YOLO** fire/human 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
 - Integrated **Spotify API** for real-time track data, lyrics, and animations

RESEARCH

- **Biometric authentication and cybersecurity in the digital age** - *Publication*: MedCrave Author
◦ 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 Author
◦ Authored paper on Leet Speak impact on password strength (**834K+ samples**). DOI: 10.32628/IJSRST229567

PROGRAMMING SKILLS

- **Languages**: TypeScript, Python, C, C++, Java **Technologies**: Next.js, Flask, Spring Boot, Docker