Eliyahu Mizrahi

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EDUCATION

Brooklyn College **Expected May 2028**
BS in Computer Science, ***GPA: 3.9/4.0*** *Brooklyn, NY*
Varsity Badminton (Division II), Computer Science Club, Hillel Club

RESEARCH

CUNY MASS Lab, Brooklyn College **June 2026 - Present**
Undergraduate Researcher, advised by Prof. Hui Chen *Brooklyn, NY*

- Only student currently on the lab's reimplementation of CenDTect (NDSS 2024), an unsupervised method that trains per-domain decision trees over Censored Planet data and clusters them with DBSCAN to detect censorship events; investigating how Censored Planet and OONI diverge in what they detect
- Responsible for correctness and validation of the detection pipeline, including ground-truth auditing against raw measurement data, algorithm fixes to match the paper's formulation, and evaluation infrastructure for scoring results against OONI labels (Python, scikit-learn, pandas, pytest)

PROJECTS

XPStrength - Gamified Fitness Platform (Sep 2024 - Present) · XPStrength.com

- Built and shipped a cross-platform fitness app to the iOS App Store (React Native, TypeScript, Expo) with 50+ registered users, featuring XP-based progression, competitive leagues, and a muscle-recovery heatmap
- Currently running an IRB-approved human subjects study evaluating the effectiveness of gamification on workout adherence and outcomes

Hormuz Watch - Philly 250 Maritime Defense Hackathon (Mar 2026, 48hr)

- Built an edge-first maritime threat detection system for the Strait of Hormuz on about $450 of hardware (Raspberry Pi 5, ESP32 mesh, Jetson Orin Nano), with each AIS report scored in under 15 ms, zero cloud dependency, and an AES-256-GCM encrypted mesh network with constant-rate cover traffic
- Trained an Isolation Forest + PyTorch Autoencoder ensemble on 18.8M real AIS reports (NOAA MarineCadastre); caught all 5 real US incident days in NOAA's historical data, and flagged all 5 reconstructed Hormuz incident replays (Stena Impero, Mercer Street, Fujairah) at 137 reports/sec
- Integrated local LLM (Ollama + Phi-3 Mini on Jetson Orin Nano) with RAG over 150+ intelligence documents for contextual alert triage, under 2s response time

WORK EXPERIENCE

U.S. Marshals Service, Eastern District of New York **June 2026 - August 2026**
Intern *Brooklyn, NY*

- Gathered usability feedback from Deputy U.S. Marshals on Capture, the USMS enterprise case management platform replacing legacy JDIS; filed defect reports and proposed interface changes adopted in later updates
- Entered and organized sensitive law enforcement records in Excel under agency data-handling policy

HONORS & AWARDS

- **2nd Place Nationally, National Cyber League Fall 2025** - Perfect 3,000-point score, 7,800+ competitors
- Helped Monmouth Cyber Hawks reach **#2 in the NCL Power Rankings** (featured in Brooklyn College News)
- **26th Globally, picoCTF 2026 (CMU)** - Perfect 14,500 team score, 8,700+ teams; top contributor, 6,700 pts
- **Best UI/UX Design & Best Entrepreneurial Hack (IDEA)**, HackRU Fall 2025

SKILLS

Languages: Python, JavaScript, TypeScript, Java, SQL, HTML/CSS **Frontend/Mobile:** React, React Native, Expo, Tailwind, Redux, shadcn/ui **Backend/Data:** Node.js, Express, FastAPI, Flask, WebSockets, MongoDB, MySQL, Firebase, Snowflake **ML/AI:** PyTorch, TensorFlow, scikit-learn, Pandas, NumPy, ONNX, RAG, LLM integration (OpenAI, Gemini, Ollama, ElevenLabs) **Cybersecurity:** Cryptography, web exploitation, forensics, reverse engineering, binary exploitation, CTF, AES-256-GCM **Cloud/Embedded:** AWS (EC2), Docker, Heroku, Vercel, GitHub, Raspberry Pi, ESP32, Jetson Orin Nano