

Tarik Metin

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EDUCATION

Johns Hopkins University

Bachelor of Science in Computer Science

MSE in Computer Science & Human Language Technology

Baltimore, MD

May 2026

Expected May 2027

GPA: 3.8 / 4.00

Coursework: UI and Mobile Applications; Full-Stack JS; Data Structures; Computer System Fundamentals; Artificial Intelligence; Computer Networks; Ethical Hacking; Deep Learning; Human Language Technology; Introduction to Algorithms; Human Computer Interaction (Course Assistant); Medical Device Cybersecurity; AI-Enabled Software Engineering; Robot Learning

WORK EXPERIENCE

Co-Founder & CTO

Baltimore, MD

Pebl Health Inc

September 2024 - Present

- Invented, designed, and prototyped the Pebl, a patent-pending Personal Electronic Biometrics Logger, overseeing the entire product lifecycle from 3D design and programming to PCB design, prototyping, and testing.
- Led and managed a multidisciplinary engineering team of three across embedded systems, iOS, and web development to deliver innovative health solutions.
- Developed the company website and spearheaded creation of a personalized AI health assistant and community platform to enhance user engagement and accessibility.

Research Software Engineer

Baltimore, MD

Center for Language and Speech Processing (CLSP), Johns Hopkins University

February 2026 - Present

- Built the entire front-end user interface for CrossWeave, a radically new social media experience designed to bridge communities and broaden perspectives, implementing all non-NLP components.
- Collaborated weekly with Professors Ziang Xiao, Jason Eisner, and Tiziano Piccardi on UX/UI, HCI, and NLP methods; built CI/CD pipelines and end-to-end testing, translating user needs and requirements into evaluated implementations.

Research Assistant

Baltimore, MD

Quantum Sensor Technologies, LLC

June 2024 - September 2024

- Conceptualized and implemented machine learning methods (k-nearest trees, parameterized Fourier-transformed MLP models) to accurately predict vectorial magnetic fields from optically detected magnetic resonance (ODMR) data.
- Coded a Python application with logging and visualized tracking to interface with a servo and stage controller, building a lithography machine for micrometer-scale antenna, waveguide, and probe manufacturing using a microscope and laser.
- Collected and labeled recordings of manual nanowire control, performed image processing via CV2, and trained TensorFlow 2.0 CNNs and YOLO machine-vision models to improve tracking of gold nanowires for cell research.

Security Engineer I

Rockville, MD

Intertek / Acumen Security

September 2022 - January 2025

- Supported FIPS certification efforts for Samsung, Oracle, Intel, and others by evaluating hardware/software modules.
- Identified inefficiencies in manual testing and automated cybersecurity requirement testing using Python3 and C, greatly increasing process efficiency.
- Applied visualization techniques to model complex relationships; spearheaded a tokenization-based tool to derive security testing requirements from a module's specs and claims, simplifying test plan creation.

Founder & Organizer

Baltimore, MD

House of Nur, JHU Hacker House

August 2025 - Present

- Founded and lead a hacker house of eight members, building out a basement robotics, electronics, and engineering lab.
- Host weekly gatherings including an Embodied AI robotics club, Biryani Wednesdays, and visits from professors and university deans; run weekly house meetings, a shared cooking and cleaning schedule, and house finances.

Outreach Coordinator & Youth Mentor

Columbia, MD

Maryland Turkish American Inhabitants (MARTI), themarti.org

September 2019 - Present

- As Outreach Coordinator, organized interfaith events convening delegates, state senators, and faith leaders; designed and built the MARTI website.
- Mentored 5th to 12th graders for five years and coordinated the mentor team in the most recent year; founded a STEM academy teaching cybersecurity and programming; support the White Tulip free health clinic.

Engineering Intern

Baltimore, MD

Morgan State University

August 2021 - January 2022

- 3D modeled, printed, and assembled a robotic prosthetic arm using Arduino and Fusion 360.

PROJECTS

Secure Product Development Framework (SPDF), ESP-IDF Reference Implementation Advised by Dr. Michael Rushanan

- Architected a secure firmware reference implementation for medical telemetry devices on the ESP32-S3 (ESP-IDF/FreeRTOS), producing FDA Secure Product Development Framework evidence and HIPAA safeguards via secure boot, record-level encryption, threat modeling, secure OTA, and SBOM traceability.

Memory-SmolVLA, Vision-Language-Action Model with Memory

- Augmented the SmolVLA architecture with a memory module, lifting long-horizon (LIBERO-10) success from 72% to 76% over a tuned baseline and reaching 88.75% overall on the LIBERO benchmark (SmolVLA paper: 87.3%).

MentorTracker.org, Personal Development Tracking Portal

March 2024 - April 2024

- Developed a personal development portal enabling mentors to set goals and track mentees' progress | React and Firebase.

LinguaLeap, AI Language Learning Platform

- Built an AI-powered adaptive language learning platform with a six-person team; designed personalized lesson generation and learner progress tracking.

PUBLICATIONS

CrossWeave (CSCW '26). A social media user interface designed to connect people and broaden perspectives.

Effect of Constitutional AI Principles on LLM Responses. Evaluated AI alignment techniques using RLHF models.

Artificial Intelligence Today (2021). Interviewed AI researchers at UMBC; analyzed AI ethics, transparency, and capabilities.

SKILLS

Languages: English (Fluent), Turkish (Native), Arabic (Professional Working)

Technical: React Native (Expo), Python, C & C++, Java, JavaScript, React, HTML, CSS, Firebase, TensorFlow, Embedded Systems, PCB Design

HONORS & AWARDS

1st Place MedTech Hackathon • Robot Skills Champion • National Honor Society • Phi Theta Kappa