

# Tomer Krayzman

Software Engineer -- Mixed Reality and Full Stack Development

(Secret Clearance)

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Software Engineer specializing in mixed reality development with over 3 years of experience building simulation environments, SDKs, and interactive tools for defense and commercial applications. Holds an M.S. in Computer Science having done research focused on improving battlespace visualization in mixed reality environments.

Skilled in Unity, Unreal Engine, and full-stack development with a strong background in user-focused iteration and cross-disciplinary collaboration.

## Experience

### MITRE Corporation | Software Engineer

July 2022 - May 2025 | McLean, VA

- Led MITRE's Early Access Program for NVIDIA's experimental fVDB library, collaborating with 4 NVIDIA developers and leveraging MITRE's multi-GPU cluster to reduce 3D mesh load times for a Gettysburg model from 15 minutes to 5 minutes.
- Designed 3D simulation environments in Unreal Engine 5 for urgent care planning, enabling layout testing with AI-driven NPCs; mentored 3 interns on the project.
- Mapped and optimized controls for remote-controlled drone and submarine in VR; improved control responsiveness by ~20% and designed a photorealistic marine environment for simulation testing.
- Developed a Mixed Reality SDK for Army headsets using Unity, incorporating field test feedback from Army personnel to deliver a 15% improvement in training scenario load times.

### MITRE Corporation | Software Engineer (Part Time)

May 2021 - May 2022 | McLean, VA

- Built an AR keyboard for HoloLens 2 using Unity, C#, and MRTK, enabling typing via eye-tracking and a physical select button, improving accessibility for hands-free scenarios.

### Capital One | Software Engineering Intern

March 2020 - August 2020 | McLean, VA

- Developed and maintained an internal hosting service portal using Angular and Scully.io, increasing page load speed by ~30%.
- Automated onboarding by creating Angular-based intake forms integrated with GitHub Issues API, reducing manual admin work by 40%.
- Implemented CI/CD pipeline with Jenkins and Jest, achieving 95% unit test coverage for new portal features.

## Projects and Research

### UpDog - Dog Park Social App (Personal Project)

July 2025 - Present

- Designed and developed a mobile app for discovering and reviewing dog parks, integrating GPS-based park discovery, user ratings, and a React Native front-end.
- Built back-end API with Node.js and MongoDB, supporting user accounts, park search, and review functionality
- Conducted user research and currently testing sessions with local owners to gather feedback, iterating on the app's UI/UX to ensure a user-friendly experience.

### Army Research Lab ORAU Fellowship - Researcher

June 2021 - May 2022

- Researched Human-AI Teaming (HAT) in Army IVAS headsets, improving battlespace visualization by integrating the mixed-reality application, the Battlespace Visualization Interface (BVI)
- Built simulations in Python and TensorFlow for integration into AR training systems, supporting research on Human-AI Teaming and improving mixed reality visualization capabilities.

## Education

- M.S. Computer Science -- University of Maryland - College Park
- B.S. Computer Science & B.A. Chinese, University of Maryland - College Park

May 2022

May 2021

## Skills

- Programming: C#, Python, Java, HTML/CSS/JavaScript, Angular, SQL, MongoDB
- Libraries: TensorFlow, scikit-learn, OpenCV, PyTorch, CUDA, CuPy
- Tools: Unity 2D/3D, Unreal Engine 5, Photoshop/Illustrator, Figma, Blender, AutoDesk 3D Modeling
- Languages: Russian, Hebrew, English, Spanish, Chinese, currently learning Hmong