

TOMER KRAYZMAN

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Education

University of Maryland - College Park

- ▶ M.S. Computer Science
- ▶ B. S. Computer Science and B. A. Chinese

May 2022

May 2021

🔒 Clearance: Secret

Experience

MITRE Corporation | **Software Engineer**

July 2022 - Present

- ▶ Building a VR space visualization simulator using Unreal Engine 5, using MQTT to collect data on user analytics for further improvement of UI/UX in a virtual reality setting
- ▶ Created and optimized controls for a remote controlled drone and submarine in a VR environment in Unreal Engine 5, designed and optimized a marine environment for the submarine to traverse
- ▶ Developed a new mixed reality SDK for Army headsets using Unity, focused on this version being more developer-friendly, enhanced existing features such as landmark tracking and communications
- ▶ Created and optimized dynamic terrain and mesh generation of the Earth in Unity for a flight simulator. Developed flight controls for the simulator as well

MITRE Corporation | **Software Engineer (Part time)**

May 2021 - May 2022

- ▶ Developed an AR keyboard that is controlled by eye tracking sensors in the Hololens 2 using Unity, C#, and the Mixed Reality Toolkit (MRTK) alongside one other intern
- ▶ Enabled the program to grant the user the ability to type letters or premade words with only gaze/pupil movement and a physical 'select' button

Capital One | **Software Engineering Intern**

June 2020 - August 2020

- ▶ Built a web portal from scratch functioning as a base of information for an internal hosting service operated by Capital One using Angular while improving site performance using Scully.io
- ▶ Constructed intake forms using the Angular CLI and connected the form to the Github Issues API to automate an existing onboarding process offered by an the hosting service
- ▶ Implemented CI/CD by creating unit tests for each new component added to the portal, managed and maintained test coverage by creating a pipeline using Jenkins and Jest

MITRE Corporation | **Software Engineering Intern**

June 2019 - October 2019

- ▶ Developed new features for a dependency mapping tool used to manage government resources using Vue.js in a team of 3 developers
- ▶ Created data visualizations using D3.js for the mapping tool and an internal government search engine and successfully integrated a newly updated company-made framework

Projects and Research

Army Research Lab ORAU Fellowship | **Research**

June 2021 - May 2022

- ▶ Researched ways to integrate Human AI Teaming (HAT) in Army IVAS headsets by improving battlespace visualization in AR. Used the Battlespace Visualization Interface (BVI)
- ▶ Created simulations to be later integrated into AR headsets using Python and TensorFlow
- ▶ Publications: Novel AI Decisions Aids for Decision Dynamics, Deception, and Game Theory
The Future of Collaborative Human-Artificial Intelligence Decision-Making for Mission Planning

Mixed Reality Exploration Toolkit (MRET) | **Research and Development**

December 2020 - May 2021

- ▶ Researched ways to improve NASA's MRET, updated mixed reality UI and created new tutorials in Unity using C# to enhance usability while collaborating with a team of 4 other students
- ▶ Modified and adapted the toolkit to allow for use by both the HTC Vive and the Oculus Rift

Skills

- ▶ Proficient in Java, HTML/CSS/JavaScript, Angular, C#, SQL, MongoDB, C++, Python
- ▶ Python libraries: Tensorflow, scikit-learn, OpenCV, PyTorch, Cuda, CuPy
- ▶ Tools: AWS, Git, InVision, Adobe Photoshop/Illustrator, Unity 2D/3D, Blender 3D Modeling
- ▶ Foreign Languages: Russian, Hebrew, English, Spanish, Chinese, currently learning Hmong