

# ERDEM MURAT

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## Education

### George Mason University

January 2022 – May 2023 (Expected)

*Master of Science in Computer Science*

*Fairfax, VA*

- Member of the Design Computing and eXtended Reality (DCXR) research group.
- Leading member and Secretary of the Computer Science Graduate Students Association (CSGSA).

### George Mason University

August 2018 – December 2021

*Bachelor of Science in Computer Science*

*Fairfax, VA*

## Academic Research

### Understanding User Experience of Online Education in Metaverse: A Systems Perspective

November 2022

*Ruizhi Cheng, Erdem Murat, Lap-Fai Yu, Songqing Chen, Bo Han*

- Built a Mozilla Hubs server-client system and wrote JavaScript scripts to record platform performance through API.
- Used Python and Jupyter Notebook to compute, visualize and analyze systems data.
- Gave a VR lecture to 23 Graduate students and later assisted a well-established researcher using my platform for a speech.
- Completed study with a total of 4 lectures in which qualitative user data & quantitative systems data have been recorded to document a detailed systems understanding of VR education and user experience through an academic paper.

### Machine Learning Automation for Virtual Reality - Master's Thesis

December 2022

- Developed a system to address a limitation in VR development research and proposed a solution that improves user experience through both qualitative and quantitative user data collected.
- Used procedural game difficulty design to generate various game levels to better understand and test the relationship between game parameters and user experience.
- Obtained IRB certificate for social and behavioral research and collected data from over 50 users playing my VR game.

## Experience

### Design Computing and eXtended Reality (DCXR)

January 2022 – Present

*Virtual Reality Researcher, Lab Member*

*George Mason University*

- Advisor: Prof. Lap-Fai (Craig) Yu
- Through DCXR, I have engaged in three different academic research projects so far.
- As a member of the lab, I am able to receive mentorship from Prof. Yu, collaborate with lab members, access equipment required for research, and attend seminars, conferences, and related events.

### Global Co Lab Network

July 2022 – Present

*Virtual Reality Director*

*Arlington, VA*

- Developing and maintaining VR Hubs for the Co Lab to host conferences and present fieldwork addressing social issues.
- Instructor and mentor for three teams participating in the UN Sustainable Development Goals (SDG) Metaverse Competition where contestants develop their own VR environments to address to an SDG.

### Reviewer

January 2023

*IEEE VR 2023*

### Cyber Bytes Foundation

June 2022 – July 2022

*Building in VR Camp Instructor*

*Stafford, VA*

- Created a 5-day schedule with 7 hours of teaching material each day to teach virtual reality development to a classroom of 20 students.
- Integrated advice from the Mozilla Hubs team and knowledge gained in lectures, research, seminars, and conferences to create highly educational, unique and comprehensive content.

## Projects

### Why Did the Chicken Cross the Road? - Virtual Reality Game | Unity, C#

November 2021

- Researched numerous PC, mobile, and VR games to design and build a VR game that is addictive and fun to play.
- Implemented procedural-level design and game development techniques like 3D noise, environmental triggers, and motion sensing to create a well-rounded, and functional game.

### Test the Heights - Virtual Reality Game | Unity, C#

November 2021

- Utilized interactive systems to craft a thrilling and immersive experience.
- Performed user-testing to get feedback from 14 users in various stages of the game to make improvements continuously.