

Garrett Williams

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Projects

Synthetic AI Training Dataset Generator (DyViR) November 2021 - Present

- Developing Unity app to generate synthetic training datasets for AI aerial object detection
- Programmed behaviors for modifying and exporting CSV and video data from Unity
- Simulating optical, LiDAR, and thermal imagery for multi-modal training
- Integrating photorealistic drones and environments in collaboration with 3D artists

VR Orthopedic Surgery Simulation for Cooper Hospital June 2019 - December 2021

- Programmed C# functionality for a Unity VR simulation covering 11 surgical steps
- Integrated 3D anatomy models for real-time interaction, enhancing training realism

US Army Gunner Protection VR/MR Simulation November 2021 - Present

- Creating turret gunner combat scenario simulations for the Valve Index and CAVE
- Utilizing Unity procedural generation/terrain tools in HDRP

VR Sim for Parents of Autistic Children November 2022 - Present

- Developing a simulation to train parents how to manage their ASD child's behaviors
- Implement vocal and physical interactions for Meta Quest 2 using OVR and Wit.AI

Work Experience

VR Research Engineer October 2022 - Present

MAVRC, Gloucester County, NJ

- Develop virtual reality programs for Cooper Hospital, DOD, FAA, etc.
- Co-lead student teams in engineering courses, resulting in 3 published conference papers
- Integrates 3D assets into the VR simulation pipeline, streamlining the development process
- Trained in the development and operation of Dreamscape Learn VR 4D Free-Room Pod

Creative Developer Intern

May 2022 - August 2022

Jam3, Toronto, ON (Remote)

Education

Master's of Science, Electrical and Computer Engineering (Expected Summer 2024) GPA: 3.74/4.0

Rowan University, Glassboro, NJ

Certifications/Achievements

- Unity Certified Professional: Artist (March 2023)

Publications

- "DyViR: dynamic virtual reality dataset for aerial threat object detection," Proc. SPIE 12529, Synthetic Data for Artificial Intelligence and Machine Learning: Tools, Techniques, and Applications, 125290G (13 June 2023); <https://doi.org/10.1117/12.2663417>

Volunteer Experience

Head/Master Instructor, National Karate Institute

January 2015 - Present