Isayas Berhe Adhanom

Assistant Professor
Department of Computer Science
Texas State University

isayas@txstate.edu
www.isayasadhanom.me
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Research Interests

My research interests include Virtual/Augmented Reality, Human-Computer Interaction, Applied Machine Learning, and Vision Science.

Appointments

2024 – Now **Assistant Professor**, *Texas State University*.
Department of Computer Science

2022 – 2024 **President's Postdoctoral Fellow**, *University of Minnesota*.
Illusioniring Lab, with Evan Suma Rosenberg

2018 – 2022 **Graduate Research Assistant**, *University of Nevada, Reno*.
UNR HCI Lab, with Eelke Folmer

Educational Background

May 2022 **Ph.D. in Computer Science and Engineering**
University of Nevada, Reno
Honor: Outstanding Ph.D. Dissertation Award

May 2019 **M.Sc. in Computer Science and Engineering**
University of Nevada, Reno

July 2016 **B.Sc. in Computer Engineering**
Eritrea Institute of Technology

Honors & Awards

2025 **Best Paper Award**, IEEE VR 2025, Saint Malo, France

2022-2024 **President's Postdoctoral Fellowship**, University of Minnesota Twin Cities

2022 **Outstanding Ph.D. Dissertation Award**, University of Nevada, Reno

2022 **Special Recognitions for Outstanding Review**, VRST 2022

2022 **IEEE VR 2022 IDA Scholarship**, IEEE VR 2022

2021 **Google CS Research Mentorship Program Mentee**, Google

2020 **Graduate Student Association Travel Award**, University of Nevada, Reno

2017-2018 **Graduate Dean's Fellowship**, University of Nevada, Reno

2016 **Great Distinction Honor**, Eritrea Institute of Technology

Selected Publications

Peer-Reviewed Journal Articles

J6 T. Nie, C. H. Pospick, V. Cantory, D. Zhang, J. J. DeGuzman, V. Interrante, **I. B. Adhanom**, E. S. Rosenberg. 2025. Peripheral teleportation: A Rest Frame Design to Mitigate Cybersickness During Virtual Locomotion. IEEE Transactions on Visualization and Computer Graphics (TVCG).

J5 **I. B. Adhanom**, P. MacNeilage, E. Folmer. 2023. Eye-tracking in Virtual Reality: a Broad Review of Applications and Challenges. Springer Virtual Reality.

J4 P. Pavilionis, **I. B. Adhanom**, R. Morran, M. Taylor, N.G Murray. 2024. Virtual Reality Application for Vestibular/Ocular Motor Screening: Current Clinical Protocol Versus a Novel Prototype. Sports Health.

J3 **I. B. Adhanom**, S. Halow, E. Folmer, P. MacNeilage. 2022. VR Sickness Adaptation with Ramped Optic Flow Transfers from Abstract To Realistic Environments. Frontiers in VR.

J2 **I. B. Adhanom**, M. Al Zayer, P. MacNeilage, E. Folmer. 2021. Field-of-View Restriction to Reduce VR Sickness Does not Impede Spatial Learning in Women. ACM Transactions on Applied Perception (TAP).

J1 A. Prithul, **I. B. Adhanom**, E. Folmer. 2021. Teleportation in Virtual Reality; A Mini-Review. Frontiers in VR.

Peer-Reviewed Conference Papers

C6 T. Nie, **I. B. Adhanom**, E. S. Rosenberg. 2023. Like a Rolling Stone: Effects of Space Deformation During Linear Acceleration on Slope Perception and Cybersickness. In Proceedings of IEEE conference on virtual reality and 3D user interfaces (IEEE VR '23).

C5 P. Sarker, K.F Hossain, **I. B. Adhanom**, P.K. Pavilionis, N.G. Murray, A. Tavakkoli. Analysis of Smooth Pursuit Assessment in Virtual Reality and Concussion Detection Using BiLSTM. In Proceedings of Advances in Visual Computing (ISVC 2022).

C4 A. Prithul, **I. B. Adhanom**, E. Folmer. 2021. Embodied Third-Person Virtual Locomotion using a Single Depth Camera. In Proceedings of Graphics Interface (GI 2021).

C3 **I. B. Adhanom**, S. C. Lee, E. Folmer, P. MacNeilage. 2020. GazeMetrics: An Open-Source Tool for Measuring the Data Quality of HMD-based Eye Trackers. In Proceedings of Symposium on Eye Tracking Research and Applications (ETRA '20).

C2 **I. B. Adhanom**, N. N. Griffin, P. MacNeilage, E. Folmer. 2020. The effect of a foveated field-of-view restrictor on VR sickness. In Proceedings of IEEE conference on virtual reality and 3D user interfaces (IEEE VR '20).

C1 M. Al Zayer, **I. B. Adhanom**, P. MacNeilage, E. Folmer. 2019. The effect of field-of-view restriction on sex bias in vr sickness and spatial navigation performance. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI 2019).

Workshop Papers and Posters

W1 P. Pavilionis, **I. B. Adhanom**, M. R. Taylor, L. Netzel, M. Kelly, D. Hopfe, N. Constantino, FACSM, N. G. Murray. 2021. Virtual Reality application for the Vestibular/Ocular Motor Screen: a comparison with a novel prototype. In Annual Meeting of the American College of Sports Medicine (ACSM).

W2 **I. B. Adhanom**. 2021. Towards Universal VR Sickness Mitigation Strategies. In 2021 IEEE Conference on Virtual Reality and 3D User Interfaces

Preprints

P1 **I. B. Adhanom**, E. M. Hand. 2019. A First Look into Neural Machine Translation for Tigrinya. Preprint, To be submitted to the ACM Transactions on Asian and Low-Resource Language Information Processing

Teaching

Instructor

Spring 2025 **CS.7389I Extended Reality and Immersive UIs**, *Texas State University*.

Fall 2024 **CS 4388/5388 Computer Graphics**, *Texas State University*.

Spring 2022 **CS 484/684 Virtual Reality**, *University of Nevada, Reno*.

Summer 2021 **Mobile App Development**, *NSF GAIN Scholars, University of Nevada, Reno*.

2008-2009 **Information & Communication Technology**, *Dekemhare Comprehensive Secondary School*.

Teaching Assistant

Spring 2021 **CS 484/684 Virtual Reality**, *University of Nevada, Reno*.

Spring 2020 **CS 484/684 Virtual Reality**, *University of Nevada, Reno*.

Invited Presentations and Talks

Mar 2024 **Carleton College, Department of Computer Science, Invited Speaker**
Towards Creating Universally Usable Extended Reality Systems

Nov 2023 **University of Minnesota, Computer Science and Engineering Colloquium, Invited Speaker**
Unlocking Virtual Reality's True Potential: Addressing the Challenge of VR Sickness

Nov 2023 **University of Minnesota, CSCI 5619 - VR and 3D Interaction, Invited Guest Lecture**
Virtual Reality Sickness

Sep 2023 **University of Minnesota, CSCI 8001 - Introduction to Research in Computer Science, Invited Panelist**
How to Thrive as a PhD Student in Computer Science

Oct 2022 **University of Minnesota, CSCI 5619 - VR and 3D Interaction, Invited Guest Lecture**
Eye Tracking in VR: an Overview of Applications and Challenges

Feb 2020 **Smith Kettlewell Eye Research Institute, Invited Talk**
Measuring the Spatial Accuracy and Precision of VR HMD-based Eye Trackers

Academic Service

Organizing Committee

2025 Co-Chair, IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR '26)

2024 Co-organizer for Workshop on Immersive Sickness Prevention (WISP) at IEEE VR '24

2024 Co-Chair, ACM Symposium on Virtual Reality Software and Technology (VRST '24)

2024 Co-organizer for Workshop on Immersive Sickness Prevention (WISP) at IEEE VR '24

2023 Co-organizer for Workshop on Immersive Sickness Prevention (WISP) at IEEE VR '23

2018-2021 Web Chair for International Symposium on Visual Computing (ISVC)

Program Committee

2024-2025 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)

2024-2025 ACM Symposium on Virtual Reality Software and Technology (VRST)

2024-2025 ACM Symposium on Spatial User Interaction (SUI)

2024 IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR '24)

Journal Reviewer

2022-2025 IEEE Transactions on Visualization and Computer Graphics (TVCG)

2023 ACM Transactions on Applied Perception (ACM TAP)

Conference Reviewer

2025 IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR)

2025 ACM Conference on Human Factors in Computing Systems (ACM CHI)

2020-2023 IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR)

2020-2022 ACM Conference on Human Factors in Computing Systems (ACM CHI)

2021-2023 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)

2020-2023 ACM Symposium on Virtual Reality Software and Technology (VRST)

2020-2021 ACM Symposium on Eye Tracking Research and Applications (ETRA)

Department Committee

2024-Present Scholarship Committee

Federal Grant Reviewer

2025 Panelist, NSF