

Lee Lisle

COMPUTER SCIENCE RESEARCHER

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Research Interests

- Virtual & Augmented Reality
- Immersive Analytics
- Interface Design
- Human Centered Design
- 3d User Interaction Techniques
- Social Virtual Reality & Avatars

Education

Doctor of Philosophy in Computer Science

VIRGINIA TECH

Advisor: Dr. Doug A. Bowman, Dissertation: *Immersive Space to Think: Immersive Analytics for Sensemaking with Non-Quantitative Datasets*

Blacksburg, VA

December 2022

Master of Science in Computer Science

VIRGINIA TECH

Advisor: Dr. Doug A. Bowman

Blacksburg, VA

December 2021

Bachelor of Science in Computer Engineering

VIRGINIA TECH

Advisor: Dr. Joseph L. Gabbard

Blacksburg, VA

May 2015

Publications

Peer Reviewed Journal Papers

[1] Different Realities: a Comparison of Augmented and Virtual Reality for the Sensemaking Process

L. LISLE, K. DAVIDSON, E.J.K. GITRE, C. NORTH, D.A. BOWMAN

Frontiers in Virtual Reality, Impact Factor: 4.70

August 2023

[2] Exploring the Evolution of Sensemaking Strategies in Immersive Space to Think

K. DAVIDSON, L. LISLE, K. WHITLEY, D.A. BOWMAN, C. NORTH

IEEE Transactions on Visualization and Computer Graphics, p. 1-15, Impact Factor: 5.56

September 2022

[3] Effects of Volumetric Augmented Reality Displays on Human Depth Judgments: Implications for Heads-Up Displays in Transportation

L. LISLE, C. MERENDA, K. TANOUS, H. KIM, J.L. GABBARD, D.A. BOWMAN

International Journal of Mobile Human Computer Interaction, p. 1-18, Impact Factor: 1.54

April 2019

Peer Reviewed Conference Papers

[4] Spaces to Think: a Comparison of Small, Large, and Immersive Displays for the Sensemaking Process

L. LISLE, K. DAVIDSON, L. PAVANATTO, I.A. TAHMID, C. NORTH, D.A. BOWMAN

International Symposium on Mixed and Augmented Reality, 32.3% Acceptance Rate

October 2023

[5] Uncovering Best Practices in Immersive Space to Think

K. DAVIDSON, L. LISLE, I.A. TAHMID, K. WHITLEY, C. NORTH, D.A. BOWMAN

International Symposium on Mixed and Augmented Reality, 32.3% Acceptance Rate

October 2023

[6] Evaluating the Feasibility of Predicting Information Relevance During Sensemaking with Eye Gaze Data

I.A. TAHMID, L. LISLE, K. DAVIDSON, K. WHITLEY, C. NORTH, D.A. BOWMAN

International Symposium on Mixed and Augmented Reality, 32.3% Acceptance Rate

October 2023

[7] Exploring the Impact of Visual Information on Intermittent Typing in Virtual Reality

A. GIOVANNELLI, L. LISLE, D.A. BOWMAN

International Symposium on Mixed and Augmented Reality, p. 8-17, 21.6% Acceptance Rate

October 2022

Best Paper Honorable Mention

[8] Evaluating the Benefits of Explicit and Semi-Automated Clusters for Immersive Sensemaking

I.A. TAHMID, L. LISLE, K. DAVIDSON, C. NORTH, D.A. BOWMAN

International Symposium on Mixed and Augmented Reality, p. 479-488, 21.6% Acceptance Rate

October 2022

[9] Sensemaking Strategies with the Immersive Space to Think

L. LISLE, K. DAVIDSON, E.J.K. GITRE, C. NORTH, D.A. BOWMAN

IEEE Conference on Virtual Reality and 3D User Interfaces, p. 529-537, 19.7% Acceptance Rate

March 2021

Best Paper Nomination

[10] Glanceable AR: Evaluating Information Access Methods for Head-Worn Augmented Reality

F. LU, S. DAVARI, L. LISLE, Y. LI, D.A. BOWMAN

IEEE Conference on Virtual Reality and 3D User Interfaces, p. 930-939, 17.9% Acceptance Rate

March 2020

[11] Enhanced Geometric Techniques for Point Marking in Model-Free Augmented Reality

W. LAGES, Y. LI, L. LISLE, T. HÖLLERER, D.A. BOWMAN

International Symposium on Mixed and Augmented Reality, p. 301-309, 21.4% Acceptance Rate

October 2019

[12] Effect of Volumetric Displays on Depth Perception in Augmented Reality

L. LISLE, K. TANOUS, H. KIM, J.L. GABBARD, D.A. BOWMAN

International Conference on Automotive User Interfaces and Interactive Vehicular Applications, p. 155-163, 37% Acceptance Rate

September 2018

[13] Crowdlayout: Crowdsourced design and evaluation of biological network visualizations

D.P. SINGH, L. LISLE, T.M. MURALI, K. LUTHER

CHI Conference on Human Factors in Computing Systems, p. 1-14, 25.7% Acceptance Rate

April 2018

Other Publications

[14] CoLT: Enhancing Collaborative Literature Review Tasks with Synchronous and Asynchronous Awareness Across the Reality-Virtuality Continuum

I.A. TAHMID, F. RODRIGUES, A. GIOVANNELLI, L. LISLE, J. THOMAS, D.A. BOWMAN

IEEE International Symposium on Mixed and Augmented Reality (ISMAR)

October 2023

[15] Clean the Ocean: An Immersive VR Experience Proposing New Modifications to Go-Go and WiM Techniques

L. LISLE, F. LU, S. DAVARI, I.A. TAHMID, A. GIOVANNELLI, C. ILO, L. PAVANATTO, L. ZHANG, L. SCHLUETER, D.A. BOWMAN

IEEE Conference on Virtual Reality and 3D User Interfaces, p. 920-921

March 2022

Best Contest Entry

[16] Fantastic Voyage 2021: Using Interactive VR Storytelling to Explain Targeted COVID-19 Vaccine Delivery to Antigen-Presenting Cells

L. ZHANG, F. LU, I.A. TAHMID, L. LISLE, S. DAVARI, N. GUTKOWSKI, L. SCHLUETER, D.A. BOWMAN

IEEE Conference on Virtual Reality and 3D User Interfaces, p. 695-696

March 2021

Best Contest Entry

[17] Integrating Everyday Proxy Objects in Multi-Sensory Virtual Reality Storytelling

S. DAVARI, Y. LI, L. LISLE, F. LU, L. ZHANG, L. BLUSTEIN, D.A. BOWMAN

CHI Conference on Human Factors in Computing Systems Abstracts and Workshops

May 2021

[18] Evaluating the Benefits of the Immersive Space to Think

L. LISLE, X. CHEN, E.J.K. GITRE, C. NORTH, D.A. BOWMAN

IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops, p. 331-337

March 2020

[19] [DC] The Immersive Space to Think: Immersive Analytics for Multimedia Data

L. LISLE

IEEE Conference on Virtual Reality and 3D User Interfaces, p. 551-552

March 2020

[20] Save the Space Elevator: An Escape Room Scenario Involving Passive Haptics in Mixed Reality

March 2019

S. DAVARI, Y. LI, L. LISLE, F. LU, L. ZHANG, L. BLUSTEIN, F. XUETING, B. GABALDON, M. KWIATOWSKI, D.A. BOWMAN
IEEE Conference on Virtual Reality and 3D User Interfaces, p. 1405-1406

Awards and Honors

Best Paper Honorable Mention - IEEE International Symposium on Mixed and Augmented Reality

October 2022

"EXPLORING THE IMPACT OF VISUAL INFORMATION ON INTERMITTENT TYPING IN VIRTUAL REALITY"

Best Contest Entry - IEEE Conference on Virtual Reality and 3D User Interfaces

March 2022

"CLEAN THE OCEAN: AN IMMERSIVE VR EXPERIENCE PROPOSING NEW MODIFICATIONS TO GO-GO AND WIM TECHNIQUES" (PRIMARY AUTHOR)

Pratt Fellowship Scholar

Spring 2022

FELLOWSHIP FOR HIGH-ACHIEVING SENIOR PH.D CANDIDATES AT VIRGINIA TECH

Best Paper Nomination - IEEE Conference on Virtual Reality and 3D User Interfaces

March 2021

"SENSEMAKING STRATEGIES WITH IMMERSIVE SPACE TO THINK" (PRIMARY AUTHOR)

Best Contest Entry - IEEE Conference on Virtual Reality and 3D User Interfaces

March 2021

"FANTASTIC VOYAGE 2021: USING INTERACTIVE VR STORYTELLING TO EXPLAIN TARGETED COVID-19 VACCINE DELIVERY TO ANTIGEN-PRESENTING CELLS"

I/ITSEC 2019 RADM Fred Lewis Postgraduate Scholarship

December 2019

\$10,000 SCHOLARSHIP AWARD FOR GRADUATE STUDENTS IN MODELING, SIMULATION, TRAINING, OR EDUCATION

Grants

Institute for Creativity, Arts, & Technology SEAD Grant

Fall 2021 - Spring 2022

"TRANSFORMING PUBLIC ENGAGEMENT WITH UNDERREPRESENTED STORIES THROUGH HUMANITIES SOURCES AND IMMERSIVE EXPERIENCES"

\$23,000

E. Gitre, D.Bowman, C. North, P. Newbill, and L. Lisle.

Research Experience

Postdoctoral Research Associate - Virginia Tech National Security Institute

October 2023 to Present

VIRGINIA TECH

Blacksburg, VA

Focusing on designing, implementing, and testing immersive analytics visualizations for cybersecurity analysis in augmented reality

Graduate Research Assistant - 3DI Group

January 2018 to December 2022

VIRGINIA TECH

Blacksburg, VA

Focused on Sensemaking with immersive analytics in augmented and virtual reality

Graduate Research Assistant - Crowd Intelligence Lab

January 2017 to December 2017

VIRGINIA TECH

Blacksburg, VA

Focused on crowdsourcing and gamification for complex biological problems

Undergraduate Research Assistant - COGENT Lab

January 2013 to May 2015

VIRGINIA TECH

Blacksburg, VA

Focused on simulator interface integration and user experience design

Teaching Experience

Grad Student Mentorship

VIRGINIA TECH

Fall 2021 - Fall 2022

3DI Group junior graduate student

I was able to help a new graduate student transition from industry to Academia. I provided him guidance to earn a position in the 3DI lab through providing him a letter of recommendation, and then guide him through the research process, including study design and implementation, data analysis, and the publishing process.

Undergraduate Student Mentorship

VIRGINIA TECH

Summer 2021 - Fall 2021

IST History Exhibit Project

I helped hire and mentor an undergraduate student on a project where IST was adapted to a history exhibit. They were an art student at the time and created several assets for the project. Several times we worked together closely to get prototype demos done for showing it to various stakeholders.

CS4784: HCI Capstone - Guest Lecturer (2 classes)

VIRGINIA TECH - SUBSTITUTING FOR DR. DOUGLAS BOWMAN

Spring 2021

CS5714: Usability Engineering - Guest Lecturer (1 class)

VIRGINIA TECH - SUBSTITUTING FOR DR. JOSEPH GABBARD

Spring 2020

Invited Presentations

Immersive Space to Think: Immersive Multimedia Sensemaking

GRADUATE STUDENT SEMINAR

Virginia Tech

November 2021

Professional Service

Workshops Organized

Inclusion, Diversity, Equity, Accessibility, Transparency, and Ethics in XR (IDEATEXR)

IEEE CONFERENCE ON VIRTUAL REALITY AND 3D USER INTERFACES

Primary Organizer, 2024

Future Faculty Forum (F3)

IEEE CONFERENCE ON VIRTUAL REALITY AND 3D USER INTERFACES

2024

Volunteer Experience

Participant Pool Committee Member

VIRTUAL EXPERIENCE RESEARCH ACCELERATOR

2024

International Program Committee Member

INTERNATIONAL SYMPOSIUM ON MIXED AND AUGMENTED REALITY

2024

Doctoral Consortium Chair

INTERNATIONAL SYMPOSIUM ON MIXED AND AUGMENTED REALITY

2024

Web Chair

INTERNATIONAL SYMPOSIUM ON MIXED AND AUGMENTED REALITY

2021

Peer Review Experience

IEEE Transactions on Visualization and Computer Graphics

JOURNAL

2024

International Symposium on Mixed and Augmented Reality

CONFERENCE & JOURNAL PROCEEDINGS

2023

ACM Symposium on Virtual Reality Software and Technology

CONFERENCE PROCEEDINGS

2023

ACM CHI Conference on Human Factors in Computing Systems

CONFERENCE PROCEEDINGS - OUTSTANDING REVIEW AWARD

2022-2024

IEEE Conference on Virtual Reality and 3D User Interfaces

JOURNAL & CONFERENCE PROCEEDINGS

2019-2024

Taylor and Francis Ergonomics

JOURNAL

2018-2023