

FRED LEIGHTON

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CURRENT POSITION

Associate Professor, Media Arts and Game Development Program, Department of Communication, College of Arts and Communication, University of Wisconsin-Whitewater, 2023 to present.

EDUCATION

M.Sc. Digital Media, Georgia Institute of Technology, May 2012

M.F.A. Interactive Design & Game Development, Savannah College of Art & Design, June 2006

B.A. History of Art, University of Michigan-Ann Arbor, August 1988

PUBLICATIONS

"You Can Get There From Here – Creating 3D models with Photorealistic textures from the e57 file format." *MW21: MW 2021*. Published January 29, 2021. Consulted June 22, 2021. <https://mw21.museweb.net/paper/you-can-get-there-from-here-creating-3d-modelswith-photorealistic-textures-from-the-e57-file-format/index.html>

"Developing Mobile Augmented Reality with Unity and Vuforia." *MW20: MW 2020*. Published March 30, 2020. Consulted June 4, 2021. <https://mw20.museweb.net/paper/developing-mobile-augmented-reality-with-unity-andvuforia/>

Kuper, Ksobiech, Wickert, Leighton, Frederick. "An Exploratory Analysis of Increasing Self-Efficacy of Adults with Autism Spectrum Disorder Through the Use of Multimedia Training Stimuli." *Cyberpsychology, Behavior, and Social Networking, Special issue: VR and Autism*, 2019. Published November 6, 2019, Ahead of Print. Consulted December 1, 2019. <https://www.liebertpub.com/doi/10.1089/cyber.2019.0111>

"The portARble museum: Developing Augmented Reality for the Web using AR.js." *MW18: MW 2018*. Published January 15, 2018. Consulted December 30, 2018. <https://mw18.mwconf.org/paper/the-portarble-museum-developing-augmented-reality-for-the-web-using-ar-js/>

PUBLICATIONS (cont.)

Leighton, Mazalek, Rebola. "Tangible Synergetic Domes" Work in Progress. *Seventh International Conference on Tangible, Embedded, and Embodied Interaction*. February 2013.

Mazalek, Welsh, Nitsche, Clifton, Leighton. "Lasting Impression: Interaction With Embodied Puppet Leads to Changes in the Way People Draw Sketches" Work in Progress. *Seventh International Conference on Tangible, Embedded, and Embodied Interaction*. February 2013.

Mazalek, Welsh, Nitsche, Reid, Clifton, Leighton, Tan. "Reach Across the Boundary: Evidence of Physical Tool Appropriation Following Virtual Practice" *Seventh International Conference on Tangible, Embedded, and Embodied Interaction*. February 2013.

GRADUATE ASSISTANTSHIPS

Online Projects, Dean's Office, Ivan Allen College of Liberal Arts, Georgia Institute of Technology, 2012.

Augmented Environment Lab, Georgia Institute of Technology, 2010-11.

CONFERENCE PRESENTATIONS

"gAme desIgn and development, Artificial Intelligence in Game Design and Development" Presentation. 2024 Celebrating Teaching and Learning Conference, Whitewater, WI.

"ChemistARy, A Mobile Augmented Reality App for Learning Chemistry" Poster Presentation. 2022 Conference on Transforming STEM Higher Education, American Association of Colleges and Universities, Arlington, VA.

"ChemistARy, A Mobile Augmented Reality App for Learning Chemistry" Presentation. The Learning Ideas Conference 2022, New York, NY.

"Creating Closeness and Connection in the College Classroom" Panel Presentation. Central States Communication Association 2022 Annual Convention, Madison, WI.

"Augmented Reality for the Mobile Web" Presentation. 2019 Celebrating Teaching and Learning Conference, Whitewater, WI.

"Tangible Synergetic Domes" Work in Progress. Seventh International Conference on Tangible, Embedded, and Embodied Interaction, 2013, Barcelona, Spain.

HOW-TO SESSIONS

"You Can Get There From Here - Creating 3D models with Photorealistic textures from the e57 file format." How-To Session. MW21: MuseWeb 2021, 25th Annual Conference, Online.

"Developing Mobile Augmented Reality with Unity and Vuforia" How-To Session. MW20: MuseWeb 2020, 24th Annual Conference, Online.

"The portARble museum, Developing Augmented Reality for the Web using AR.js"

How-To Session. MW18: Museums and the Web 2018, 22nd Annual Conference, Vancouver, B.C., Canada.

Hands-On Demonstration. MCN 2018, 51st Annual Museum Computer Network Conference, Denver, CO.

CREATIVE WORKS

Leighton, Girard, "ChemistARy, Mobile Augmented Reality App for Learning Chemistry" 2022.

Leighton, Girard, "Augmented Reality Chemistry Model Kit and Learning Game" 2019.

Leighton, Kuper. "Job Training for Adults with Autism Spectrum Disorder" 2019.

Leighton. "cryptocARency: Ambient User Interface with Mobile Web AR" 2018.

Leighton. "Tangible Cryptocurrency" 2017.

Bayruns, Border, Mize, Leighton, Tait. "Interactive Electroluminescent Bus Route Display" 2011.

RESEARCH FUNDING

Faculty Research Sabbatical program, UW-Whitewater, Fall 2025, paid leave.

2023-24 UWW Teaching and Learning grant, Artificial Intelligence. \$1000 stipend.

Research Across Curriculum, Interdisciplinary Group of Faculty for supporting the inclusion of research in undergraduate courses throughout UW-Whitewater. 2018-19. \$2000 stipend.

RESEARCH FUNDING (cont.)

Emerging Technology Exploration. UW-Whitewater, Learning Technology Center. Spring 2017.
\$3000 for purchase of Microsoft HoloLens.

SELECTED SOLO EXHIBITIONS

The Secret of Bigfoot Pass, Secor Gallery, Toledo, OH, 2009.

Dynamic Variations, MFA Thesis Exhibition and Performance, Orleans Hall, Savannah, GA, 2005.

SELECTED GROUP EXHIBITIONS

100 x 100, Triangle Arts Association, New York, NY, 2011.

iDEAs 07: Beyond Boundaries, The F.U.E.L. Collection, Philadelphia, PA, 2007.

55th Annual BGSU Faculty Exhibition, Dorothy Uber Bryan Gallery, Bowling Green, OH, 2007.

AWARDS AND REVIEWS

The Art of the Motorcycle. Award Winner, INTERACTION 2003, PRINT Magazine Interactive Design Competition. Outstanding Achievement Award, 2002 HOW Interactive Design Competition. CD-ROM Producer. Guggenheim.com. (NYC) 2001. Online version. 2002 Webby Award Winner – Broadband.

FINSTERACTIVE. CD-ROM on Rev. Howard Finster, acclaimed Outsider Artist. WIRED (11/98), Mac Art & Design (Spring '99), and Feed (3/99). FLDM. 1998.

COURSES TAUGHT

Assistant and Associate Professor, Lecturer, Media Arts and Game Development Program, Communication Department, College of Arts and Communication, University of Wisconsin-Whitewater, 2015-present.

MAGD 150: Introduction to Media Arts and Game Development

MAGD 270: Web Development

MAGD 271: Interactive Communication

MAGD 272: Game Development I

MAGD 231: Game Jam Practicum

MAGD 487: Senior Capstone I

COMM 294: Gaming Journalism Website

COURSES TAUGHT (cont.)

COMM 496: Special Studies, Augmented Reality for Mobile Devices

COMM 498: Independent Study, multiple separate offerings. Subjects include: Project Management, Mobile Virtual Reality, Interaction Design, Mobile Games, History of Visual Music

Adjunct Instructor, School of Literature, Media and Communication, Georgia Institute of Technology, 2012-2014.

LMC 3206: Communication and Culture

LMC 2720: Visual Design

LMC 3705: Information Design

Instructor, Visual Communications Technology Department, College of Technology, Bowling Green State University, 2008-2010.

VCT 3040: Display, Exhibition Technology

VCT 3660: Intermediate Interactive Development

VCT 4600: Digital Photography (Software)

Instructor, Digital Arts Department, School of Art, Bowling Green State University, 2007-2008.

ARTC 201: Introduction to Digital Arts

ARTC 321: Digital Imaging

ARTC 331: Interactive Art

COURSES DEVELOPED

Assistant Professor, and Lecturer, Media Arts and Game Development Program, Communication Department, College of Arts and Communication, University of Wisconsin-Whitewater, 2015-present.

COMM 496: Special Studies, Augmented Reality for the Mobile Web. Spring 2019.

COMM 496: Special Studies, Augmented Reality for Mobile Devices. Fall 2021.

WORKSHOPS ATTENDED

Transparent Assignment Design and Critical Thinking Workshop. Curriculum and Assessment, UW-Whitewater, 2021.

Gender Expansive Pronouns, Diversity and Inclusion, UW-Whitewater, 2021.

WORKSHOPS ATTENDED (cont.)

Re-Thinking Discussion Boards, Learning Technology Center, UW-Whitewater, 2021.

Blended Lectures, Learning Technology Center, UW-Whitewater, 2021.

Research Across Curriculum, Interdisciplinary Group of Faculty for supporting the inclusion of research in undergraduate courses throughout the University. 2018-19.

LEARN Center, ACUE Effective Teaching Practices course, 2018.

CONFERENCES ATTENDED

MCN 2025, 57th Annual Museum Computer Network Conference, Minneapolis, MN.

The Learning Ideas Conference 2024, “Artificial Intelligence and Learning”, Online

UIST 2023, ACM Conference, User Interface and Software Technology, San Francisco, CA.

Siggraph 2023, ACM Conference, Computer Graphics and Interactive Techniques, Los Angeles, CA.

Siggraph 2021, ACM Conference, Computer Graphics and Interactive Techniques, Online

Siggraph 2020, ACM Conference, Computer Graphics and Interactive Techniques, Online

Siggraph 2019, ACM Conference, Computer Graphics and Interactive Techniques, Los Angeles, CA

Siggraph 2018, ACM Conference, Computer Graphics and Interactive Techniques, Vancouver, B.C., Canada

Siggraph 2017, ACM Conference, Computer Graphics and Interactive Techniques, Los Angeles, CA

Siggraph 2016, ACM Conference, Computer Graphics and Interactive Techniques, Anaheim, CA

UIST 2016, ACM Conference, User Interface and Software Technology, Tokyo, Japan

UNIVERSITY COMMITTEES, UW-WHITEWATER

Academic Development, University-wide committee for reviewing and approving sabbatical research applications. Serving as an alternate, 2024-25.

UNIVERSITY COMMITTEES, UW-WHITewater (cont.)

Graduate Student Research, University-wide committee for reviewing and approving research proposals and funding, 2021-22.

Digital Purple Books, University-wide committee for exploring the use of digital tools in Purple Book, UW-Whitewater system of performance review, documents and workflow, 2020-21.

McGraw Award, University-wide committee, faculty and students, recognizing outstanding achievement by a graduating undergraduate student, 2021-22.

COLLEGE OF ARTS & COMMUNICATION COMMITTEES, UW-WHITewater

Student Scholarships, College of Arts and Communication, 2024-present.

Visiting Artists and Speakers, College of Arts and Communication, 2016, 2019-2021.

COMMUNICATION DEPARTMENT COMMITTEES, UW-WHITewater

Annual Reviews for Communication Department non-tenured, non-tenure track faculty, College of Arts and Communication, University of Wisconsin-Whitewater, 2023-present.

Student Scholarships, Communication Department, 2017-2022, 2023-present.
Co-Chair, 2020-21, Chair, 2019-20.

Job Search, Assistant Professor in Media Arts and Game Development Program, Communication Department, 2017-18, and 2024-25.

Job Search, Assistant Professor in Journalism, Communication Department, 2016-17.

GRADUATE THESIS COMMITTEES, UW-WHITewater

Gregory Kuper, University of Wisconsin-Whitewater. "Autism in the Workplace: Testing the Self-Efficacy of Adults with Autism Spectrum Disorder When Using New Media as a Mediated Training Stimuli." Received Master of Science in Communication, Mass Communication, Spring 2018.

PROGRAM COMMITTEES, UW-WHITewater

Curriculum Assessment, Media Arts and Game Development Program, 2016-2022, 2023-present.

PROGRAM COMMITTEES, UW-WHITEWATER (cont.)

MAGD Expo, Media Arts and Game Development Program, Communication Department, 2016-17, 2022-23.

PROGRAM ADVISING, UW-WHITEWATER

Academic Advising, 2015-present.

Advisor, Table-Top Gaming Student Group, Media Arts and Game Development Program, 2023-2024.

Advisor, Game Zombie (doublejumpgamingnews.com) Student Group, Media Arts and Game Development Program, 2016-2018.

CONFERENCE PLANNING

Review and Evaluation of Session Proposals. MCN 2017, 50th Annual Museum Computer Network Conference, Pittsburgh, PA.

PROFESSIONAL EXPERIENCE

Guggenheim.com (NYC), 2001. Producer, Developer. Authored interactive media for *The Art of the Motorcycle*, stand-alone and website versions of award-winning title. Created and Implemented project plans; Directed interactive designers and content producers. Created production schedules for website. Managed customized software application for delivering streaming media.

Braincraft (NYC), 2000. Technical Project Manager. Created budgets and proposals, Managed production and resources for online projects. Acted as company interface for clients, communicating project status.

Churchill Communications (NJ), 1999 - 2000. Producer. Managed and Developed new media projects and online content for pharmaceutical industry clients. Created and maintained production schedules, and allocated resources for projects. Estimated resource requirements and Created budgets for proposed projects.

Center for Creative Instruction, Health Science Campus at The University of Toledo (OH), 1994-98. Coordinator, Digital Media Specialist. Collaborated with faculty, Organized and Lead production teams for Medical Education new media projects.

SKILLS (SOFTWARE, HARDWARE)

Communication, Online, Blended and Remote Learning

Canvas, Cisco Webex, Microsoft Teams, Google applications including Hangouts

Sound Design

Pro Tools, Reason, Ableton Live, Logic Pro

Vector Graphics

Adobe InDesign and Illustrator, Inkscape

Video Editing and Motion Graphics

Adobe Premiere and After Effects

Imaging

Photoshop, Gimp

Multimedia Authoring, Game Development

Adobe Animate, Unity

HTML Authoring

Sublime Text, Adobe Dreamweaver

Augmented Reality, Virtual Reality, Mixed Reality (AR, VR, MR)

Unity with Vuforia, A-Frame and AR.js, Google Cardboard and Daydream, Microsoft HoloLens

Fabrication

Laser Cutter for wood and acrylic materials, 3D Printer, CNC Router, Silkscreen press with electroluminescent and dielectric inks and conductive mylar surface.

Microcontrollers for use with Electronics Equipment

Arduino boards and IDE, Circuit Playground Express, Huzzah ESP8266, electronics equipment including LEDs, motors, switches, buttons, potentiometers, and sensors.

Programming, Scripting, Web Development

Xcode, Android Studio, Processing, P5.js, HTML5, CSS3, Bootstrap 5.2.3, JavaScript, jQuery, XML, C#, R

Machine Learning (AI), Web Development

ml5.js

SKILLS (SOFTWARE, HARDWARE) (cont.)

3D modeling and animation

Blender, MAYA, Unity, SketchUp

Photogrammetry

RealityCapture

Tangible User Interface

reactIVision