Lazlo Ring, Ph.D

Principal Software Engineer

Experienced innovator with proven expertise in creating XR Experiences with Natural User Interfaces. Adept at working with both internal and external partners to bring collective visions to reality, leading projects from concept to deployment. Comfortable with working on cutting edge technology to explore hidden potentials, discover new markets, and develop the systems of tomorrow.

Areas of Expertise include:

Prototyping	XR Development	Game Development
UX Research	Gestural Interfaces	Hand Tracking Experiences
Unity	C#	

Professional Experience

PRINCIPAL ENGINEER, HEAD OF US CUSTOMER APPLICATIONS TEAM - ULTRALEAP
Mountain View, CA · 2/2018 - 7/2024

Led the Customer Applications Team as Head of the US Division, overseeing technical aspects of customer engagements, from headset integration to supporting ISV experiences. Acted as the primary technical contact for all customer meetings in the US, ranging from trade shows to on-site customer support meetings. Conducted workshops and technical training sessions with customers, and at company-sponsored public hackathons.

Key Accomplishments:

- Expanded the hand tracking software market by working directly with customers to help them learn how to convert existing controller-based experiences to hands-free experiences by utilizing Ultraleap's Hand Tracking Technology. Often worked directly alongside customers on their codebase or with their design team to teach them best practices in developing hand tracking experiences.
- Cultivated strategic partnership with Epic Games by leading monthly meetings and internal tooling development, resulting in a public plugin for Ultraleap's hand tracking technology in the Unreal Engine, enhancing support for key customers.
- Showcased the immersive power of hand tracking and mid-air haptics in VR experiences by developing numerous flagship multiplayer VR demos. These demos were experienced by hundreds of participants at trade shows like CES, IAAPA and AWE from 2018 to 2024.
- Illustrated the importance of natural user interactions by developing a series of enterprise VR training experiences. Showcased to numerous high profile customers at trade shows including CES from 2022 to 2024.
- Demonstrated how eye and hand tracking can seamlessly work together as part of a flagship demo for CES 2024. Demonstrated during CES 2024 to numerous hardware partners and was pivotal in securing next steps towards direct hardware integrations of Ultraleap technology.
- Led efforts in adapting the Ultraleap tracking software to work on numerous XR2 based headsets including the Pico Neo 3, HTC Focus 3, Digilens Argo and Lenovo VRX. Developed Android versions of Ultraleap's flagship demos to run on these new devices, which were showcased at numerous tradeshows between 2021 and 2024.
- Developed a technical showcase of low-latency hand tracking streaming in CloudXR, enabling highly immersive interactable content on lightweight wireless headsets, which was presented at GTC 2022 and customized for high-profile customers in the immersive entertainment sector.

RESEARCHER: GRADUATE/POSTDOCTORAL - NORTHEASTERN UNIVERSITY

Boston, MA · 2008 to 2018

Project: An Affectively-Aware Dialogue System for Counseling (Ph.D Thesis)

Conceptualized a theoretical framework for using empathic statements to respond to real time changes in a user's affective state. Implemented as part of a five-week-long intervention that used an embodied conversational agent to deliver automated cognitive behavioral therapy based depression counseling. Evaluated usage data and self report measures in R, and conducted a thematic analysis of debriefing interviews.

Key Accomplishments:

- Developed an embodied conversational agent in Unity that allowed for simulated face-to-face conversation.
- Developed a JSON based scripting language to easily create dialogue for conversational agents.
- Conducted a five-week long user study with the target population with the system being remotely deployed on their personal computers.
- Performed both quantitative and qualitative analysis of the user study, highlighting the benefits of affective awareness in conversational agents.

Project: DynamicDuo (Co-Presenter Agent)

Designed a co-presentation system to help inexperienced presenters deliver their presentations in front of an audience. Evaluated system against traditional presentation technology to explore its impact on user's anxiety and acceptance of the technology by both users and external judges.

Key Accomplishments:

- Created and integrated a life size embodied conversational agent into powerpoint.
- Incorporated gestural interfaces (body motions) to allow for more natural interactions with the agent.
- Co-presented the results with the conversational agent live at the CHI 2015 Conference in Korea.

Project: AlwaysOn

Investigated and developed a social support agent for isolated older adults. Conducted multiple studies evaluating user requirements, feature feasibility, and agent acceptance. Led a final month-long evaluation study assessing the impact of embodiment on agent acceptance using virtual and robot based variants of the system.

Key Accomplishments:

- Created an architecture that works with both embodied conversational agents and robots.
- Deployed and maintained the system remotely across month long installations into older adults homes.
- Created a wrapper for Google Hangouts to allow older adults to use video conferencing through natural dialogue with the conversational agent/robot.

Skills

Programming Languages: Unity (Expert), C# (Expert), C++ (Advanced), Javascript (Advanced), Java (Advanced), Unreal (Advanced), Python (Basic)

Programming Skills: Game Development. System Architecture, Gestural Interfaces, Networking, AR/VR/XR, Haptics Design

Select Publications

1. *An Affectively Aware Virtual Therapist for Depression Counseling.* ACM SIGCHI - Workshop on Computing and Mental Health, 2016
2. *Real-time Tailoring of Depression Counseling by Conversational Agent.* Partners Connected Health Symposium, 2016
3. *Increasing Engagement with Virtual Agents Using Automatic Camera Motion.* Intelligent Virtual Agents (IVA), 2016
4. *Thinking Outside the Box: Co-Planning Scientific Presentations with Virtual Agents.* Intelligent Virtual Agents (IVA), 2016
5. *DynamicDuo: Co-presenting with Virtual Agents.* ACM SIGCHI, 2015
6. *A Robotic Companion for Social Support of Isolated Older Adults.* HRI (Extended Abstracts), 2015
7. *Social Support Agents for Older Adults: Longitudinal Affective Computing in the Home.* Journal on Multimodal User Interfaces, 2015
8. *Robotic and Virtual Companions for Isolated Older Adults.* AAAI Fall Symposium Series, 2014 9. *The Right Agent for the Job?* Intelligent Virtual Agents, 2014
9. *Addressing Loneliness and Isolation in Older Adults: Proactive Affective Agents Provide Better Support.* Affective Computing and Intelligent Interaction (ACII), 2013
10. *An Always-on Companion for Isolated Older Adults.* ACM SIGDIAL, 2013
11. *Reaching Women through Health Information Technology: The Gabby Preconception Care System.* American Journal of Health Promotion, 2013
12. *Longitudinal Affective Computing*. Intelligent Virtual Agents, 2012
13. *Designing Relational Agents as Long Term Social Companions for Older Adults.* Intelligent Virtual Agents, 2012
14. *Empathic Touch by Relational Agents. IEEE Transactions on Affective Computing, 2010*

Additional Experience

ACTOR MACHINES · New York, NY· 2008-2009 · **Software Engineer**

Education

Doctor of Philosophy in Computer Science - Human Computer Interaction
NORTHEASTERN UNIVERSITY | Boston, MA | 2017

Bachelor of Science in Computer Science and Psychology
STONY BROOK UNIVERSITY | Stony Brook, NY | 2008