Tiffany D. Do

PH.D. CANDIDATE · COMPUTER SCIENCE (HCI)

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Education

University of Central Florida — *Orlando, FL*
PH.D. COMPUTER SCIENCE — *2020 - present*
- Advisor: Dr. Ryan P. McMahan
- Research Interests: Virtual Agents, Human-AI Interactions, Virtual Reality and Augmented Reality

University of Texas at Dallas — *Richardson, TX*
M.S. COMPUTER SCIENCE — *2018 - 2019*

University of Texas at Dallas — *Richardson, TX*
B.S. COMPUTER SCIENCE — *2016 - 2018*

Research Experience

2023 **Ph.D. Research Intern**, Ability Team, HCAIX Group, Microsoft Research (MSR)
2020-Pres **Graduate Research Assistant**, eXtended Reality and Training (XRT) Lab, University of Central Florida
2018-2019 **Undergraduate Research Assistant (REU)**, University of Texas at Dallas

Publications

UNDER REVIEW

1. **Tiffany D. Do**, Camille Isabella Protko, and Ryan P. McMahan. "Stepping into the Right Shoes: The Effects of Aligning User and Avatar Gender and Ethnicity on Embodiment in Virtual Reality." *Submitted to 2024 IEEE Virtual Reality (VR).*
2. **Tiffany D. Do**, Martez Mott, John Tang, Sasa Junuzovic, Ann Paradiso, and Ed Cutrell. "Empowering Engagement and Navigating Nuances: Exploring AI-Driven Affective Avatars for Individuals with Cognitive and Communicative Disabilities in Virtual Meetings." *Submitted to 2024 CHI Conference on Human Factors in Computing Systems (CHI).*
3. **Tiffany D. Do**, Steve Zelenty, Mar Gonzalez-Franco, and Ryan P. McMahan. "VALID: A perceptually validated Virtual Avatar Library for Inclusion and Diversity." *Submitted to Front. Virtual Reality.* https://research.google/pubs/pub52638/

CONFERENCE PROCEEDINGS

1. Alec G. Moore, **Tiffany D. Do**, Nicholas Ruozzi, and Ryan P. McMahan (2023). "Identifying Virtual Reality Users Across Domain-Specific Tasks: A Systematic Investigation of Tracked Features for Assembly." *In Proceedings of 2023 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, 2023, pp. 1-10. Acceptance rate: 21.2%
2. Jacob Belga, **Tiffany D. Do**, Ryan Ghamandi, Ryan P. McMahan, Joseph J. LaViola Jr. (2022). "Carousel: Improving the Accuracy of Virtual Reality Assessments for Inspection Training Tasks." *In ACM Symposium on Virtual Reality Software and Technology (VRST)*, 2022, pp. 1-10. https://doi.org/10.1145/3562939.3565618. Acceptance rate: 26.7%
3. **Tiffany D. Do**, Mamtaj Akter, Zubin Choudhary, Roger Azevedo, and Ryan P. McMahan. (2022). "The Effects of an Embodied Pedagogical Agent's Synthetic Speech Accent on Learning Outcomes." *In Proceedings of the 2022 ACM International Conference on Multimodal Interaction (ICMI)*, 2022, pp. 1-9. https://doi.org/10.1145/3536221.3556587. Acceptance rate: 33%
4. **Tiffany D. Do**, Ryan P. McMahan, and Pamela J. Wisniewski. (2022). "A New Uncanny Valley? The Effects of Speech Fidelity and Human Listener Gender on Social Perceptions of a Virtual-Human Speaker." *In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*, 2022, pp. 1-11. https://doi.org/10.1145/3491102.3517564. Acceptance rate: 24.7%
5. **Tiffany D. Do**, Seong Ioi Wang, Dylan S. Yu, Matthew G. McMillian, and Ryan P. McMahan. (2021). "Using Machine Learning to Predict Game Outcomes Based on Player-Champion Experience in League of Legends." *In Proceedings of*

2021 International Conference on the Foundations of Digital Games (FDG), 2021, pp. 1-5. https://doi.org/10.1145/3472538.3472579

6. **Tiffany D. Do**, Joseph J. LaViola Jr., and Ryan P. McMahan. (2020). "The Effects of Object Shape, Fidelity, Color, and Luminance on Depth Perception in Handheld Mobile Augmented Reality." *In Proceedings of 2020 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, 2020, pp. 64-72. https://doi.org/10.1109/ISMAR50242.2020.00026. Acceptance rate: 28.8%

7. **Tiffany D. Do**, Dylan S. Yu, Salman Anwer, and Seong Ioi Wang. (2020). "Using Collaborative Filtering to Recommend Champions in League of Legends." *In Proceedings of 2020 IEEE Conference on Games (CoG)*, 2020, pp. 650-653. https://doi.org/10.1109/CoG47356.2020.9231735.

Refereed Extended Abstracts and Posters

1. **Tiffany D. Do** (2021). "Designing Virtual Pedagogical Agents and Mentors for Extended Reality". *In Proceedings of 2021 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)*, IEEE, 2021, pp. 486-489. https:doi.org/10.1109/ISMAR-Adjunct54149.2021.00112

2. **Tiffany D. Do**, Dylan S. Yu, Alyssa Katz, and Ryan P. McMahan. (2020). "Virtual Reality Training for Proper Recycling Behaviors". *In ICAT-EGVE 2020 - International Conference on Artificial Reality and Telexistence and Eurographics Symposium on Virtual Environments - Posters and Demos*, 2020, pp. 31-32. https://doi.org/10.2312/egve.20201284

Awards, Fellowships, & Grants

2022 **Computer Science Merit Scholar (Paper Merit Award)**, University of Central Florida
2022 **Graduate Presentation Fellowship**, University of Central Florida
2022 **Doctoral Research Support Fellowship**, University of Central Florida

2020 **Nominated: ECS Award for Excellence by a Graduate TA**, University of Central Florida
2020 **IEEE CIS Student Travel Grant**, IEEE Computer Information Society
2020 **CRA-WP Travel Grant**, Computing Research Association - Widening Participation

2016 - 2019 **Academic Excellence Scholarship Honors (Full scholarship)**, University of Texas at Dallas *$ 72,953*
2018 **Grace Hopper Scholarship**, University of Texas at Dallas

Professional Experience

Microsoft Research (MSR) *Redmond, WA*
Ph.D. Research Intern *May 2023 - Aug 2023*
- Advised by Ed Cutrell, Martez Mott, and John Tang within the HCAIX (Human-Computing AI Experiences) Group at MSR
- Designed inclusive avatars for people with communication and mobility disabilities
- Used LLMs (GPT-4) to drive the affect and emotion of inclusive, expressive avatars
- Conducted a user study with adults with disabilities to improve AI-driven affective avatars

Axxess Technology Solutions *Dallas, TX*
Backend Engineering Intern *May 2019 - Aug 2019*
- C#.NET Developer for home healthcare software
- Developed an API in C#.NET for external clients to get/retrieve patient and prescription data
- Designed MySQL database tables for patient and prescription data

OnPoynt Aerial Solutions *Richardson, TX*
Full-stack Developer Intern *Aug 2018 - Dec 2018*
- Developed a cross platform mobile application for drone racing as a social network using Ionic framework
- Designed all UX in Adobe Experience Design for the application

Teaching Experience

Fall ’23	**CAP 3104 Foundations of HCI**, Graduate Teaching Assistant
July ’21	**UCF Camp Connect: Advanced Research Camp**, Graduate Advisor
Spring ’21	**CGS 3763 Operating Systems Concepts**, Graduate Teaching Assistant
Fall ’20	**COP 3502 Computer Science 1 in C**, Lab Instructor, Graduate Teaching Assistant
Spring ’20	**COP 3502 Computer Science 1 in C**, Lab Instructor, Graduate Teaching Assistant

Academic Service & Outreach

Peer Review

2023	**ACM CHI**, **IEEE ISMAR, IEEE VR**
2022	**IEEE ISMAR, IEEE VR, ACM CHI**, **ACM MM**
2021	**Springer Virtual Reality (VIRE)**, **ACM MM (Emergency Reviewer)**

Professional Outreach

2023	**UCF Summer Undergraduate Research Fellowship (SURF)**, Fellowship Reviewer
2022	**Girls Who Code @ UCF**, Vice President, Founding member
2022	**ACM Human Factors in Computing Systems (CHI)**, Student Volunteer
2020-2022	**ACM-Women (ACM-W) at UCF**, Mentor
2018-2021	**National Center for Women & IT (NCWIT)**, Aspirations in Computing Volunteer