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

2024 **Ph.D. Research Intern**, Google (Labs@Google)
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

Journal Proceedings

1. **Tiffany D. Do**, Camille Isabella Protko, and Ryan P. McMahan (2024). "Stepping into the Right Shoes: The Effects of Aligning User and Avatar Gender and Ethnicity on Embodiment in Virtual Reality." *To Appear in IEEE Transactions on Visualization and Computer Graphics (IEEE TVCG))*, 2024, pp. 1-11. Impact Factor: 5.2
2. **Tiffany D. Do**, Steve Zelenty, Mar Gonzalez-Franco, and Ryan P. McMahan (2023). "VALID: A perceptually validated Virtual Avatar Library for Inclusion and Diversity." *In Front. Virtual Reality 4.* https://doi.org/10.3389/frvir.2023.1248915

Highly Selective Conference Proceedings (Acceptance Rates < %30)

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. https://doi.org/10.1109/ISMAR59233.2023.00054. 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**, 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%
4. **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%

Other Refereed Conference Proceedings

1. **Tiffany D. Do**, Camille Isabella Protko, and Ryan P. McMahan (2024). "The Influence of Mixed-Gender Avatar Facial Features on Racial Perception: Insights from the VALID Avatar Library." *To Appear in 2024 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*, 2023, pp. 1-4.
2. **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%
3. **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
4. **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

†Undergraduate Advisee

1. Mindi Anderson, Desiree A. Diaz, Francisco Guido-Sanz, Steven Talbert, Steve Zelenty, **Tiffany D. Do**, and Ryan P. McMahan. (2024). "Augmented reality newborn for jaundice recognition". *Poster presented at the 2024 International Meeting on Simulation in Healthcare.*
2. Camille Isabella Protko†, Ryan P. McMahan, and **Tiffany D. Do** (2024). "Lessons Learned in Designing Racially Diverse Androgynous Avatars". *To Appear in 2024 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW).*
3. **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
4. **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

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
- 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 an automated system that connect patients and new 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

Awards, Fellowships, & Grants

2024 **Outstanding Reviewer**, ACM Human Factors in Computing Systems (CHI)

2024 **Graduate Presentation Fellowship**, University of Central Florida

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

Teaching Experience

Spring ’24 **CAP 5115 Virtual Reality Engineering**, Graduate Teaching Assistant
Fall ’23 **CAP 3104 Foundations of HCI**, Graduate Teaching Assistant
Summ. ’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

ACM CHI **2022**, **2023, 2024**
IEEE VR **2022**, **2023, 2024**
IEEE ISMAR **2022**, **2023**
ACM MM **2021**, **2022**
Journal **Springer Virtual Reality (2021)**,

Professional Outreach

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