

Tiffany D. Do

PH.D. CANDIDATE · COMPUTER SCIENCE (HCI)

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Education

University of Central Florida

PH.D. COMPUTER SCIENCE

- Advisor: Dr. Ryan P. McMahan
- Research Interests: Virtual Agents, Human-AI Interactions, Virtual Reality and Augmented Reality

Orlando, FL

2020 - present

University of Texas at Dallas

M.S. COMPUTER SCIENCE

Richardson, TX

2018 - 2019

University of Texas at Dallas

B.S. COMPUTER SCIENCE

Richardson, TX

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 Protoko, 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 Ruoizzi, 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 loi 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 loi 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