407/625 Glenferrie Road
Hawthorn VIC 3122
Australia
☎ +61 4 8798 7946
✉ skarbez@gmail.com
🖥 www.richardskarbez.com
🆔 0000-0002-2783-5257
in rickskarbez
🐦 RickSkarbez

Richard T. Skarbez

Education

August 2016   **Ph.D in Computer Science**, *The University of North Carolina at Chapel Hill*, Chapel Hill, NC, USA.
Dissertation Title: *Plausibility illusion in virtual environments*
Supervised by Mary C. Whitton and Frederick P. Brooks, Jr.

May 2010   **M.S. in Computer Science**, *The University of North Carolina at Chapel Hill*, Chapel Hill, NC, USA.

December 2004   **B.S. with Honors in Computer Engineering**, *Pennsylvania State University—University Park*, University Park, PA, USA.
Thesis Title: *A presentation of the semantics and formal properties of C3L, an event-driven distributed control language*

Current Appointment

Title   Lecturer in Computer Science and Information Technology

Institution   La Trobe University

School of Computing, Engineering and Mathematical Sciences

Department of Computer Science and Information Technology

Description   Since June of 2018, I have been a lecturer (Level B) in the Department of Computer Science & IT at La Trobe University. In this role, I have been subject coordinator, lecturer, and developer of several subjects including Professional Software Development (CSE3PSD/CSE5008), Data/Information Visualization (CSE2DV/CSE5INV), Virtual Reality (CSE5005, formerly CSE4VR) and Augmented Reality (CSE5AR). I have extensive experience teaching introductory and advanced programming, having taught and coordinated classes in C, C++, Java, and Python at La Trobe. I am an active researcher, collaborating with LTU colleagues in myriad disciplines, including psychology, archaeology, physiology, microbiology, and philosophy. I also have an extensive network of national and international collaborators, with active collaborations with researchers at many institutions in the US, Europe, and Japan.

Research interests

- Virtual environments
- Immersive analytics
- Human computer interaction
- Inter- and cross-disciplinary research

Dissertation

Title *Plausibility illusion in virtual environments*

Supervisors Mary C. Whitton and Frederick P. Brooks, Jr.

Citation In 2009, Professor Mel Slater first proposed that in addition to *presence*, the feeling of "being there" in a virtual environment, researchers also need to consider the feeling that the events depicted in the VE appear real. He coined the terms *Place Illusion* (PI) and *Plausibility Illusion* (Psi), respectively, to refer to these subjective feelings. I investigated Psi over the course of several experiments, demonstrating that Psi can be detected using existing presence measures including questionnaires and physiological metrics, that inconsistent behavior of virtual objects causes increased heart rate in participants, that Psi is affected by individual differences (as is presence), and that it is feasible to determine a rank ordering of VE factors that affect Psi in VEs, with the presence of the virtual body being most important of those factors tested.

Selected as the 2018 IEEE VGTC Virtual Reality Best Dissertation honorable mention

Books

Title *Presence and Beyond: Evaluating User Experience in AR/MR/VR*

Editors **Richard Skarbez**, Missie Smith, Amela Sadagic, and Mary C. Whitton

Citation Skarbez, R., Smith, M., Sadagic, A., Whitton, M. C., eds. (2022). Presence and Beyond: Evaluating User Experience in AR/MR/VR. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-83250-139-94

Publications

Richard Skarbez, Missie Smith, and Mary C. Whitton. (2023). *It's time to let go of "virtual reality".* [Accepted to Communications of the ACM; in press]

Johannes Schirm, Andrés Roberto Gómez-Vargas, Monica Perusquía-Hernández, **Richard Skarbez**, Naoya Isoyama, Hideaki Uchiyama, and Kiyoshi Kiyokawa. (2023). *Identification of language-induced mental load from eye behaviors in virtual reality.* Sensors 23 (15), 6667. 24 pages. DOI: 10.3390/s23156667

Samad Roohi and **Richard Skarbez**. (2023). *A simulation study investigating a novel method for emotion transfer between virtual humans.* 2023 IEEE Virtual Reality (VR), Shanghai, pp. 819-820. DOI: 10.1109/VRW58643.2023.00252

Samad Roohi and **Richard Skarbez**. (2022). *The design and development of a goal-oriented framework for emotional virtual humans.* 2022 IEEE Artificial Intelligence and Virtual Reality (AIVR), Online/virtual, pp. 135-139. DOI: 10.1109/AIVR56993.2022.00027

Richard Skarbez, Missie Smith, Amela Sadagic, and Mary C. Whitton. (2022). *Editorial: Presence and beyond: Evaluating user experience in AR/MR/VR.* Frontiers in Virtual Reality, Volume 3, 983694. 3 pages. DOI: 10.3389/frvir.2022.983694

Dooley Murphy and **Richard Skarbez**. (2022). *What do we mean when we say "presence"?* PRESENCE: Virtual and Augmented Reality. 20 pages. DOI: 10.1162/pres_a_00360

Khadijah Alahmari, Henry Duh, and **Richard Skarbez**. (2022). *Outcomes of virtual reality technology in the management of generalised anxiety disorder: a systematic review and meta-analysis.* Behaviour & Information Technology. DOI: 10.1080/0144929X.2022.2118078

Richard Skarbez, Doug A. Bowman, J. Todd Ogle, Thomas Tucker, and Joseph L. Gabbard. (2021). *Virtual replicas of real places: Experimental investigations.* IEEE Transactions on Visualization and Computer Graphics (TVCG). 13 pages. DOI: 10.1109/TVCG.2021.3096494

Huawei Tu, Jin Huang, Hai-Ning Liang, **Richard Skarbez**, Feng Tian, Henry Been-Lirn Duh. (2021). *Distractor Effects on Crossing-Based Interaction.* Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21). Article no. 192. 13 pages. 10.1145/3411764.3445340

Richard Skarbez, Missie Smith, and Mary C Whitton. (2021). *Mixed reality doesn't need standardized evaluation methods.* Workshop paper. CHI 2021 Workshop "Evaluating User Experiences in Mixed Reality". 3 pages. DOI: 10.13140/RG.2.2.14305.02407

Richard Skarbez, Missie Smith, and Mary C Whitton. (2021). *Revisiting Milgram and Kishino's reality-virtuality continuum.* Frontiers in Virtual Reality, Volume 2, 27. 8 pages. DOI: 10.3389/frvir.2021.647997

Shiva Pedram, **Richard Skarbez**, Stephen Palmisano, Matthew Farrelly, and Pascal Perez. (2021). *Lessons learned from immersive and desktop VR training of mines rescuers.* Frontiers in Virtual Reality, Volume 2, 7. 14 pages. DOI: 10.3389/frvir.2021.627333

Shiva Pedram, Stephen Palmisano, **Richard Skarbez**, Pascal Perez, and Matthew Farrelly. (2020). *Investigating the process of mine rescuers' safety training with immersive virtual reality: A structural equation modelling approach.* Computers & Education, Volume 153, 103891. 30 pages. DOI: 10.1016/j.compedu.2020.103891

Richard Skarbez, Frederick P. Brooks, Jr, and Mary C Whitton. (2020). *Immersion and Coherence: Research Agenda and Early Results.* IEEE Transactions on Visualization and Computer Graphics (TVCG). 12 pages. DOI: 10.1109/TVCG.2020.2983701

Xi Cao, **Richard Skarbez**, Zhen He, and Henry Been-Lirn Duh. (2019). *A Content-Aware Approach for Analysing Eye Movement Patterns in Virtual Reality.* Poster. 2019 ACM Virtual Reality Software and Technology (VRST), Sydney, Australia. 2 pages. DOI: 10.1145/3359996.3364723

Richard Skarbez, Nicholas F. Polys, J. Todd Ogle, Chris North, and Doug A. Bowman. (2019). *Immersive analytics: Theory and research agenda.* Frontiers in Robotics and AI - Virtual Environments. 15 pages. DOI: 10.3389/frobt.2019.00082

Richard Skarbez and Mary C. Whitton. (2019). *Check Your Work: Evaluating VE Effectiveness Using Presence.* Book chapter in *VR Developer Gems*, edited by William R. Sherman. 15 pages.

Richard Skarbez, Frederick P. Brooks, Jr., and Mary C. Whitton. (2018). *Immersion and coherence in a stressful virtual environment.* ACM Virtual Reality Software and Technology (VRST) conference. 2018 ACM Virtual Reality Software and Technology (VRST), Tokyo, Japan. 11 pages. DOI: 10.1145/3281505.3281530 **Best paper honorable mention**

Richard Skarbez, Frederick P. Brooks, Jr., and Mary C. Whitton. (2017). *A survey of presence and related topics.* ACM Computing Surveys, 50(6), Article 96. 39 pages. DOI: 10.1145/3134301

Richard Skarbez, Solène Neyret, Frederick P. Brooks, Jr., Mel Slater, and Mary C. Whitton. (2017). *A psychophysical experiment regarding the components of plausibility illusion.* IEEE Transactions on Visualization and Computer Graphics (TVCG), 23(4), pp. 1369-1378. DOI: 10.1109/TVCG.2017.2657158

Richard Skarbez, Frederick P. Brooks, Jr., and Mary C. Whitton. (2017). *Immersion and coherence in a visual cliff environment.* Poster. IEEE Virtual Reality conference. 2017 IEEE Virtual Reality (VR), Los Angeles, pp. 397-398. DOI: 10.1109/VR.2017.7892344

Richard Skarbez, Greg Welch, Frederick P. Brooks, Jr., and Mary C. Whitton. (2017). *Coherence changes gaze behavior in virtual human interactions.* 2017 IEEE Virtual Reality (VR), Los Angeles, pp. 287-288. DOI: 10.1109/VR.2017.7892289

Richard Skarbez. (2016). *Plausibility illusion in virtual environments.* Doctoral dissertation. The University of North Carolina at Chapel Hill. 122 pages. [Download from UNC libraries]

Richard Skarbez, Aaron Kotranza, Frederick P. Brooks, Jr., Benjamin Lok, and Mary C. Whitton. (2010). *An initial exploration of conversational errors as a novel method for evaluating virtual human experiences.* Poster. 2010 IEEE Virtual Reality (VR), Singapore, pp. 243-244. DOI: 10.1109/VR.2011.5759489

Richard Skarbez and Mary C. Whitton. (2009). *Enabling distributed collaboration among heterogeneous devices.* Presentation & extended abstract. ACM CHI 2009 Workshop on the Changing Face of Digital Science, Boston, MA, USA. 4 pages. [Download]

Tyler Johnson, Florian Gyarfas, **Richard Skarbez**, Herman Towles, and Henry Fuchs. (2007). *A personal surround environment: projective display with correction for display surface geometry and extreme lens distortion.* 2007 IEEE Virtual Reality (VR), Charlotte, NC, USA, pp. 147-154. DOI: 10.1109/VR.2007.352475

Tyler Johnson, Florian Gyarfas, **Richard Skarbez**, Patrick Quirk, Herman Towles, and Henry Fuchs. (2006). *Multi-projector image correction on the GPU.* Poster. Workshop on Edge Computing, Chapel Hill, NC, USA. [Download]

Patrick Quirk, Tyler Johnson, **Richard Skarbez**, Herman Towles, Florian Gyarfas, and Henry Fuchs. (2006). *RANSAC-assisted display model reconstruction for projective display.* IEEE Virtual Reality 2006 Workshop on Emerging Display Technologies, Alexandria, VA, USA. 4 pages. DOI: 10.1109/VR.2006.115

Mendel Schmiedekamp, **Richard Skarbez**, and Shashi Phoha. (2006). *Formal methods for verification and validation of distributed interacting devices.* 10th Annual IASTED International Conference on Software Engineering Applications, Dallas, TX, USA.

Richard Skarbez. (2004). *A presentation of the semantics and formal properties of C3L, an event-driven distributed control language.* Honors thesis. The Pennsylvania State University. [Download]

Research and Development Experience

2018–Present
Lecturer (Level B), *La Trobe University Department of Computer Science and Information Technology*, Melbourne, Australia.

- Completed the Smart Supervision series of seminars offered by the Research Education and Development (RED) team, including "Introduction to Graduate Research Supervision," "Giving Feedback to Graduate Researchers," "Managing Difficult Situations and Supporting Wellbeing," and "Distance Supervision."
- Supervised to successful completion honours students in both computer science and psychology
- Co-supervised to successful completion one Ph.D. student (Dr. Xi Cao), enabling me to act as primary supervisor for all HDR students at LTU
- Currently primary supervisor for one research master's student and two doctoral students, co-supervisor for one additional doctoral student, progress committee chair for one doctoral student
- Applied for a 2023 DECRA (Project title: "Better mixed reality: a comprehensive new model to assess users' experience"). The application was unsuccessful, but selected comments from my (only) assessor include:
  - "The applicant, Dr Skarbez, has an excellent track record in the area: specifically his co-authorship to the Frontiers in VR paper on the extension of the reality-virtuality continuum is particularly relevant in this context, as well as his other contributions to place/plausibility Illusion.
  - "Additionally, he has publications in IEEE Trans. on Visualization and Computer Graphics, IEEE VR, IEEE ISMAR, ACM VRST, and ACM CHI, which are premier A*/Q1 venues in areas pertaining the research in the DECRA application. This is excellent when considering track record relative to opportunity and some career interruption (13 months)."
  - "Finally, Dr Skarbez, has an excellent international network of collaborators, including former supervisors at UNC Chapel Hill, HIT Lab, NZ at University of Canterbury, FB/Meta Research and UCF."
- Applied (as co-CI with Philippe Chouinard) for a 2024 Discovery Project (Project title: "Size matters: Evaluating how the brain processes size using virtual reality")
- Received (as co-investigator with Dr. Ebonie Rio) an internal Sport, Exercise, and Rehabilitation RFA Grant Ready grant "Seeing exercise differently: virtual reality rehabilitation for chronic knee pain" in the amount of $20,000 in 2020 and $10,000 in 2021.

2017–2018 **Postdoctoral Associate**, *Virginia Tech Department of Industrial and Systems Engineering*, Blacksburg, VA, USA.
- Designed, engineered, and carried out a series of human participants experiments
- Created and edited 3D models using 3ds Max and the Unity game engine
- Developed a series of virtual reality experiences for the Oculus Rift using C# and the Unity game engine
- Supervised teams of undergraduate researchers
- Analyzed experimental results using custom Python tools
- Wrote technical reports

2016–2017 **Systems Programmer**, *iRODS Consortium*, Chapel Hill, NC, USA.
- Implemented the iRODS Python rule engine plugin and its test rules
- Carried out performance evaluation on the iRODS 4.2 release
- Redesigned and re-implemented iRODS code to improve performance
- Wrote blog posts and other supporting documentation

2014–2016 **Graduate Student Researcher**, *National Consortium for Data Science*, Chapel Hill, NC, USA.
- Designed and implemented metadata template functionality for iRODS in Java (Jargon)
- Installed, configured, and maintained NCDS iRODS and Dataverse installations
- Wrote, revised, and helped prepare materials for NSF site review
- Curated a variety of large datasets for the NCDS

2011 **Graduate Research Assistant**, *Avatar project–UNC Department of Computer Science*, Chapel Hill, NC, USA.
- Designed experiments to evaluate the effectiveness of novel display technologies
- Wrote documents for and interacted with UNC's Institutional Review Board
- Conducted experiments and interviews with experimental participants
- Processed and analyzed experimental data using Python, MATLAB, and SPSS

2008–2009 **Graduate Research Assistant**, *NC-FIRST*, Chapel Hill, NC, USA.
- Developed a mobile web interface for the NC-FIRST weather site
- Contributed to several proposals regarding the use of sensor networks and mobile computing devices in emergency response applications

2008 **SDET Intern**, *Microsoft Corporation*, Redmond, WA, USA.
- Designed and implemented in Python a framework for automating multi-computer test scripts for the Mac Messenger test team
- Wrote test plans for new Messenger features

2005–2007 **Graduate Research Assistant**, *Wide Area Visuals project–UNC Department of Computer Science*, Chapel Hill, NC, USA.
- Developed software in C++ and MATLAB for calibration of projector-camera systems
- Contributed to posters and papers published by the WAV research group

2004–2005 **Student Researcher**, *Applied Research Laboratory*, University Park, PA, USA.
- Wrote the semantics for the Command, Control, and Communications Language (C3L) developed at the ARL
- Developed components of the C3L interpreter, including a pathology checker

2002 **Intern–End-of-line processing**, *IBM Corporation*, Endicott, NY, USA.
- Developed a procedure for automatic generation of drill machine programs from test data identifying circuit panel defects
- Performed panel testing and drill machine programming

2001 **Intern–Digital Video Products Group**, *IBM Corporation*, Endicott, NY, USA.
- Implemented a relational database to store test procedures and results
- Performed hardware and software validation testing

Teaching Experience

2018– **Lecturer (Level B)**, *La Trobe University Department of Computer Science*
Present *and Information Technology*, Melbourne, Australia.
- Proposed, originated, designed, developed, coordinated, and delivered a short course in Python programming for the Victorian Government DJPR/DJSIR Digital Jobs Program (6 instances from 2021-2023)
- Originated, developed, coordinated, and delivered a subject in virtual reality (CSE4AT3 in 2018, CSE4VR in 2019, CSE4VR in 2020, CSE5005 in 2021, 2023)
- Originated, developed, coordinated, and delivered a subject in augmented reality (CSE5AR in 2021, 2022)
- Originated, developed, coordinated, and delivered a subject in data/information visualisation (CSE2DV/CSE5INV in 2022, CSE2DV in 2023 (subject coordinator only))
- Originated, developed, coordinated, and delivered a subject in professional software development (CSE3PSD/CSE5008 in 2023)
- Originated and developed a subject in user interface design (CSE2UI/CSE5UX in 2022)
- Coordinated and redeveloped an existing subject in object-oriented programming (Java) (CSE1OOF/CSE4OOF in 2018, 2019, 2020, 2021)
- Coordinated and redeveloped an existing subject in introductory programming (C) (CSE1PES/CSE5CES in 2019, 2020)
- Coordinated an existing subject in operating systems (CSE3OSA in 2018)
- Coordinated for directed study and research project students (CSE5011 and CSE5ARP in 2021, 2022, 2023)
- Urgently revised subject design and delivery in response to the COVID pandemic
- Chaired the Software Engineering and IT working group with responsibility for course restructuring
- Marked and graded masters' theses for LTU CSIT students and doctoral students both nationally and internationally
- Led initial preparations for the department's successful Australian Computer Society accreditation process
- Supported and coordinated Dr. Rudri Kalaria as a Provost Sessional Teaching Awardee (one of two in 2021)
- Consistently received student feedback scores exceeding college, school, and department averages
- Received excellent peer feedback on teaching, exemplified by the following extract: "Excellent...Each of the topics were well-introduced, and perceived by the students as relevant. The topic on debugging in particular generated quite a lot of interest, and some students clearly felt enlightened with this knowledge."

2010 **Graduate Teaching Assistant–COMP 116 (Introduction to Scientific Programming)**, *UNC Department of Computer Science*, Chapel Hill, NC, USA.
- Acted as lead TA for the course
- Lectured weekly in recitation sections
- Assisted students during office hours
- Coordinated work among myself and other TAs
- Graded programming assignments and exams

2009 **Graduate Teaching Assistant–COMP 110 (Introduction to Programming–Java) and COMP 401 (Foundations of Programming)**, *UNC Department of Computer Science*, Chapel Hill, NC, USA.
- Acted as lead TA for the courses
- Led recitation sections
- Wrote exams, assignments, and lecture materials
- Assisted students during office hours
- Coordinated work among myself and other TAs
- Graded programming assignments, written assignments, and exams

2008 **Instructor of Record–COMP 575 (Computer Graphics)**, *UNC Department of Computer Science*, Chapel Hill, NC, USA.
- Had full responsibility for designing, teaching, and grading the course
- Developed a new syllabus for the course
- Wrote all assignments, exams, and lecture materials
- Graded all course materials and assigned final grades

2006 **Graduate Teaching Assistant–COMP 872 (Introduction to Virtual Worlds)**, *UNC Department of Computer Science*, Chapel Hill, NC, USA.
- Helped plan scheduling, assignments, and lecture topics
- Familiarized students with the hardware and software used for course projects
- Provided technical help for students

Activities and Honors

Honors
- 2022 IEEE VR Recognition of Service Award
- 2018 IEEE VGTC Virtual Reality Best Dissertation Honorable Mention
- 2018 ACM VRST Best Paper Honorable Mention

Professional associations
- Association for Computing Machinery (ACM)
- Institute of Electrical and Electronics Engineers (IEEE) Computing Society

Organizing experience

- 2023 IEEE International Symposium on Mixed and Augmented Reality (Workshops and Tutorials co-chair)
- 2022 IEEE Virtual Reality Conference (Papers co-chair)
- 2022 IEEE Workshop on Perceptual and Cognitive Issues in xR (PERCxR) (Co-organizer)
- 2021 IEEE International Symposium on Mixed and Augmented Reality (Workshops and Tutorials co-chair)
- 2020 IEEE Workshop on Perceptual and Cognitive Issues in AR (PERCAR) (Co-organizer)
- 2019 ACM Symposium on Virtual Reality Software and Technology (VRST) (Demos co-chair)
- 2019 IEEE Workshop on Perceptual and Cognitive Issues in AR (PERCAR) (Co-organizer)
- 2018 IEEE Workshop on Perceptual and Cognitive Issues in AR (PERCAR) (Co-organizer)

Editing experience

- Frontiers in Virtual Reality (Guest Associate Editor and Review Editor - Virtual Reality and Human Behaviour)
- 2022 IEEE International Symposium on Mixed and Augmented Reality Journal Track (Program committee)
- 2021 IEEE International Symposium on Mixed and Augmented Reality Journal Track (Program committee)
- 2021 ACM Symposium on Applied Perception (Program committee)
- 2021 IEEE Virtual Reality Journal Track (Program committee)
- 2020 ACM Symposium on Applied Perception (Program committee)
- 2020 IEEE Virtual Reality Journal Track (Program committee)

Session chair experience

- 2022 IEEE VR (Papers session: Interaction Design)
- 2021 IEEE VR (Papers session: Plausibility, Presence and Social VR)
- 2020 IEEE VR (Papers session 15: Embodiment 2)
- 2019 IEEE VR (Papers session 24: Medical Applications Training)
- 2018 IEEE VR (Papers session 1: Avatars and Virtual Humans)

Reviewing experience

- ACM Computing Surveys
- Frontiers in Psychology
- Frontiers in Virtual Reality
- IEEE Transactions on Applied Perception
- IEEE Transactions on Visualization and Computer Graphics
- Elsevier Computers & Graphics
- Elsevier International Journal of Human-Computer Studies
- PRESENCE: Teleoperators and Virtual Environments
- Springer Virtual Reality
- IEEE Virtual Reality (VR) conference
- IEEE International Symposium on Mixed and Augmented Reality (ISMAR)
- IEEE Symposium on 3D User Interfaces (3DUI)
- ACM Symposium on Virtual Reality Software and Technology (VRST)
- ACM Conference on Human Factors in Computing Systems (CHI)

Invited talks

- "A beginner's guide to neural rendering", full-day tutorial, ISMAR 2023, 20 October 2023 (co-presented with Dr Shohei Mori).
- "Presence and beyond: User experience in VR and across the reality-virtuality continuum", PERCxR Workshop keynote presentation, ISMAR 2022, 17 October 2022.
- "Presence and beyond: User experience in VR and across the reality-virtuality continuum", Meta Reality Labs Research, 31 August 2022.
- "What is and what is not mixed reality? Revisiting the reality-virtuality continuum", CLEVAR Seminar Series, Queensland University of Technology, 14 June 2022
- "What is and what is not mixed reality? Revisiting the reality-virtuality continuum", HCI Seminar Series, University of Melbourne, 11 June 2021
- "The psychology of virtual reality, and virtual reality for psychology", La Trobe Department of Psychology and Counselling Seminar Series, La Trobe University, 18 March 2021
- "Cognitive illusions in virtual reality: What do I mean? And why should you care?", SMART Seminar Series, University of Wollongong, 4 March 2019
- "Perception in SUMO: Justification and experimental results", The Scene Understanding and Modeling Challenge (Workshop at 2018 Asian Conference on Computer Vision (ACCV)), 3 December 2018
- "Augmented and virtual reality for teaching and learning", La Trobe Technology in Teaching Innovators group, 3 October 2018
- "Cognitive illusions in virtual reality: What do I mean? And why should you care?", MelbourneVR meetup, 13 September 2018
- "Immersive archaeology", La Trobe Archaeology department seminar, 23 August 2018
- "Usability in VR and AR", Virginia Tech, March 27 2018
- "Making virtual reality more real", Davidson College, February 22 2018
- "Making virtual reality more real", ICAT Playdate, Virginia Tech, February 16 2018

Student activities

- Team leader, UNC Effective Virtual Environments research group, 2011–2015
- President, UNC Computer Science Student Association, 2007–2008
- Coordinator, UNC Computer Science Graphics Lunch, 2005–2009
- President/Editor-in-chief, PHROTH (Penn State's humor magazine), 2003–2004
- Penn State Debate Team
- HKN Electrical and Computer Engineering Honors Society
- Golden Key National Honors Society

Technical

Programming Languages
- C
- C++
- Java
- C Sharp
- Python
- MATLAB

Statistics and analysis
- SPSS
- SAS
- R

Game engines
- Unity
- Unreal

Other
- LaTeX
- git

Media appearances

Featured expert on the Voices of VR podcast episode 130, "Richard Skarbez on Immersion & Coherence being the two key components of Presence in Virtual Reality" [link]. This episode was chosen by host Kent Bye as #1 of his top 10 episodes for getting started in VR [link].

Also featured expert on the Voices of VR podcast episode 555, "VR Presence Researcher Finds Full Embodiment to be Key Component in Plausibility" [link].

Featured expert on the Beyond the Headset podcast, episode 5, "How We Fool Ourselves into Thinking We're Somewhere Else" [link].

Selected and interviewed by Bushra Anjum for ACM Ubiquity as part of its *Innovation Leaders* series, "The Elements of Compelling Virtual (Immersive) Experiences" [link].

Featured expert on the Between Realities VR podcast, episode S07E13, recorded 19 August 2023 [link].

Other

I possess a valid Working With Children Check (1362215A-02; expires 22/05/2028) and am an Australian permanent resident.