

Dr. Rorik Henrikson

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TECHNOLOGY INNOVATOR & INVENTOR

A technological innovator & inventor, specializing in developing and using technology for creative purposes. Able to lead artists and scientists to create and achieve new and unique experiences. Collaborates effectively with people, and embodies an inclusive, helpful and respectful nature. Able to easily communicate with both scientists and artists to facilitate joint collaborations, due to diverse knowledge and background working, not only with HCI (Human Computer Interactions), VR (Virtual Reality), AR (Augmented Reality), and Stereoscopy, but also in theater and music. Key skills include:

Research | User Interaction | Developer | Prototyping
Creative Ideation | Project Management

EXPERIENCE

CEO / Owner

2023 – Present

Brucan Technologies, Toronto, Ontario, Canada

Creating innovative tools for artists in the AR/VR community, to help them achieve better and stunning results.

- Designing systems to aid artists in visualizing content in a stereoscopic format, to better allow them and their team to understand the space with which they're working, allowing for better results.
- Programming applications in Unity, to be used by film professionals to allow them to storyboard in a stereo 3D environment.
- Managing all business aspects of the company such as licensing, legal, and accounts.

Research Scientist

2020 – 2022

Reality Labs Research (Meta – formerly Facebook Reality Labs), Toronto, Ontario, Canada

Conducted leading research in the field of Human Computer Interaction, discovering new potential directions for novel interactions in AR.

- Designed research studies to explore ideas leading to new potential directions for user interactions (UI).
- Created interactive prototypes in VR and AR, using Unity and Python, to allowing for the exploration of new concepts and to more easily communicate ideas to other researchers and scientists.
- Created and oversaw a team exploring (ideating, designing, prototyping, iterating) innovative and new ideas for how to interact in the future in AR and VR using various devices such as the Oculus Quest, and Microsoft's HoloLens
- Developed scientific papers resulting in several patents and top-level conference proceedings.

Senior Research Scientist & Co-Founder

2018 – 2020

Chatham Labs, Toronto, Ontario, Canada

Conducted leading research in the field of Human Computer Interaction.

- Ran full research studies and performed analysis of data, leveraging tools such as Python, to allowing for better understanding of users' interactions with VR systems.
- Created interactive prototypes in Unity to test and communicate concepts leading to better understanding of user interactions in VR & AR systems.
- Wrote and presented a top-level conference paper at CHI'20, for improving pointer predictions in VR.

Owner, Technician, & Innovator

2005 – 2018

Rorik Computer Consulting Services, Toronto, Ontario, Canada

Facilitated home and office users with complete and competent computer, server, and network setup and support allowing for secure and efficient systems.

- Created and designed Internet content, specific to clients' needs to help entice potential customers.
- Produced and designed visually intuitive 3D images, to aid in the visual appeal for websites.
- Advised on hardware purchases and technical questions aiding users find the best options for their specific technical needs.

EDUCATION**PhD** – Human Computer Interaction, 2017

Thesis Title: Facilitating Real-Time Sketch-Based Storyboards for Stereoscopic and Virtual Reality Environments
University of Toronto, Toronto, Ontario, Canada

Master of Computer Science - Human Computer Interaction

University of Toronto, Toronto, Ontario, Canada

REFEREED JOURNAL AND FULL CONFERENCE PAPER PUBLICATIONS

[RF. 10] Liu, S. J., Henrikson, R., Grossman, T., Glueck, M., & Parent, M. **RadarVR: Exploring Spatiotemporal Visual Guidance in Cinematic VR**. In Proceedings of the 36th Annual ACM Symposium on User Interface Software and Technology. (UIST 2023) ACM, New York, NY, USA, 1-14.

[RF. 9] Henrikson, R., Clarke, D., White, T., Lai, F., Glueck, M., Santosa, S., Wigdor, D., Grossman, T., Trowbridge, S., and Benko, H. **Head-Coupled Kinematic Template Matching for Target Selection in Hangry Piggos**. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI EA '20)*. ACM, New York, NY, USA, 1–4.

[RF. 8] Henrikson, R., Grossman, T., Trowbridge, S., Wigdor, D., and Benko, H. **Head-Coupled Kinematic Template Matching: A Prediction Model for Ray Pointing in VR**. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*. (CHI 2020) ACM, New York, NY, USA, 1–14.

[RF. 7] Henrikson, Rorik. **Facilitating Real-Time Sketch-Based Storyboards for Stereoscopic and Virtual Reality Environments**. Diss. University of Toronto (Canada), 2017.

[RF. 6] Henrikson, R., Araujo, B., Chevalier, F., Singh, F., Balakrishnan, R. **Multi-Device Storyboards for Cinematic Narratives in VR**. In *Proceedings of the 29th Annual Symposium on User Interface Software and Technology* (UIST '16). ACM, New York, NY, USA, 787-796.

[RF. 5] Henrikson, R., Araujo, B., Chevalier, F., Singh, F., Balakrishnan, R. **Storeboard: Sketching Stereoscopic Storyboards**. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (CHI '16). ACM, New York, NY, USA, 4587-4598.

[RF. 4] Henrikson, R., Mutabdzic, D., Tsang, K., **Surgical Trainer and Navigator Final Report**. 2014

[RF. 3] Ranjan, A., Birnholtz, J., Henrikson, R., Balakrishnan, R., Lee, D. **Automatic camera control using unobtrusive vision and audio tracking**. *Proceedings of Graphics Interface 2010* (GI '10). Canadian Information Processing Society, Toronto, Ont., Canada, Canada, 47-54.

[RF. 2] McCall, S.H., Clark, A., Ellis, R., Henrikson, R., Piotrowski, A., Piotrowski, L., Reid, M., Rodney, J., Breault, R., McCall, M. **A Database for the Selection of Surfaces and Materials for Space- and Ground-Based Applications**. In: *Kleiman, J.I., Tennyson, R.C. (eds) Protection of Space Materials from the Space Environment*. Space Technology Proceedings, vol 4. Springer, Dordrecht.

[RF. 1] McCall, S., Breault, Henrikson, Reid, Clark, Ellis, Piotrowski, A., Piotrowski, L., Rodney, McCall, M. **Globally accessible bidirectional scattering distribution function software data tool.** *Proc. SPIE.* 3426 (1998): 303-312.

REVIEWER & SERVICE

2011 – 2022 **Reviewer** (Various conferences including): ACM User Interface Software and Technology Symposium (UIST), ACM Computer Human Interaction (CHI), IEEE Virtual Reality Conference (IEEE VR), ACM International Symposium on Wearable Computers (ISWC), ACM Special Interest Group on Computer Graphics and Interactive Techniques (SIGGRAPH), ACM Interactive Surfaces and Spaces (ISS)

2014 **Service:** ACM Computer Human Interaction (CHI) - Student Volunteer

2011 – 2013 **Service:** Computer Science Student Mentor

DEMOS, PRESENTATIONS AND POSTERS

2018 **Panelist:** Canadian Opera Company (COC) – Hadrian Conference

2017 **Panelist:** FIVARS - Festival of International Virtual & Augmented Reality Stories

Presenter: VRTO - Virtual Reality, Toronto – Planning for Narratives in VR

2015 **Demo:** DemoCampToronto, University of Toronto, Rotman School of Management

2015, 2011 **Demo:** Research in Action Showcase, University of Toronto, Computer Science

2015, 2012 – **Presentation:** Grade 11 Visit Day, Computer Science, University of Toronto

2013

2014 **Presentation:** Mobile App Night Competition, 2nd place, Surgical Trainer and Navigator (STAN), ECE1778 Course Project, University of Toronto

SKILLS & CERTIFICATES

[SC. 1] **Certificate:** Microsoft Certified Systems Administrator (MCSA): Messaging on Microsoft Windows Server 2003

[SC. 2] **Certificate:** Crystal Reports

[SC. 3] **Skills - Programming Languages:** Unity, C#, C++, Python, Perl, Awk, Basic, SQL, ASP(X), (X)HTML, Java Script, Pascal, Java, ActionScript

[SC. 4] **Applications (select):** Microsoft Suite, Google Suite, Figma, Adobe Photoshop, GIMP, Adobe Premiere, DaVinci Resolve, 3D Studios Max, Blender

AWARDS

2017 **Excellent Reviewer Recognition**, ACM Computer Human Interaction (CHI)

2016 **Graduate Completion Award**, University of Toronto

2012 – 2013 **Wolfond Fellowship**, University of Toronto

TEACHING – TEACHING ASSISTANT

2012 - 2016 **CSC108:** Introduction to Computer Programming (Head TA: 2013, 2014)

2013 **CSC108:** Introduction to Computer Programming (Content Creation)

2012, 2017 **CSC148:** Introduction to Computer Science

2011 **CSC180:** Introduction to Computer Programming

CSC207: Software Design

2010 **CSC301:** Introduction to Software Engineering