

IEEEVR 2023-Open Access Tools and Libraries for Virtual Reality



Matias Volonte, Northeastern University – m.volonte@northeastern.edu

Dr. Matias Volonte is currently a Postdoctoral Research Associate at the Department of Computer Science at Northeastern University. He is working with Dr. Tim Bickmore from the Relational Agents Group investigating the use of virtual agents in which human-agent relationships improve task outcomes in the healthcare domain. Matias is interested in researching simulated face-to-face conversations with an emphasis on the relational and conversational aspects of these interactions.



Mar Gonzalez Franco, Google - margon@google.com / [@twi_mar](https://twitter.com/twi_mar)

She explores human behaviour and perception to build better technologies in the wild. She has a prolific scientific output (website), and her work has transferred to products used daily around the world, like Hololens, Microsoft Soundscape and Together mode in Microsoft Teams. Mar is a Computer Scientist and holds a PhD in Immersive Virtual Reality and Clinical Psychology from Universitat de Barcelona. Before joining Google, she was at Microsoft, Airbus, the MIT, and University College London.



Eyal Ofek, Microsoft Research - eyalofek@microsoft.com

Dr. Ofek is a Principal Researcher at Microsoft Research and a senior member of the ACM. His research interests include Augmented Reality (AR)/Virtual Reality (VR), Haptics, interactive projection for the area of Haptics. He holds a Ph.D in Computer Vision from The Hebrew University of Jerusalem, and was a founder of a couple of companies in the area of computer graphics such as the successful drawing application and developing the world's first time-of-flight video camera which was a basis for the HoloLens depth camera.



Andrew Duchowski, Clemson University- aduchow@clemson.edu

Dr. Duchowski is a professor of Computer Science at Clemson University. He received his doctorate from Texas A&M University in Computer Science. His research and teaching interests include visual attention and perception, eye tracking, computer vision, and computer graphics. He is a noted research leader in the field of eye tracking, having produced courses, seminars and a textbook related to eye tracking research.



Anthony Steed, University College London – a.steed@ucl.ac.uk

Dr. Steed is Head of the Virtual Environments and Computer Graphics group in the Department of Computer Science at University College London with 30 years of experience in developing effective immersive experiences. While his early work focused on the engineering of displays and software, currently he is focused on user engagement in collaborative and telepresence scenarios. He received the IEEE VGTC's 2016 Virtual Reality Technical Achievement Award. Dr Steed was a Visiting Researcher at Microsoft Research and an Erskine Fellow at the Human Interface Technology Laboratory in New Zealand.



Hasti Seifi, Arizona State University - Hasti.Seifi@asu.edu

Dr. Seifi is an assistant professor in the School of Computing and Augmented Intelligence at Arizona State University. Previously, she was at the University of Copenhagen and Max Planck Institute for Intelligent Systems. Dr. Hasti aims to democratize access to emerging technologies such as haptics, VR/AR, and robotics. She has helped create open-source datasets, interactive visualizations, and educational content for VR, haptics, and physical HRI such as LocomotionVault, Haptiedia, VibViz, LearnHaptics, and RobotHands.



Yuhang Zhao, University of Wisconsin-Madison – yuhang.zhao@cs.wisc.edu

Dr. Zhao is an assistant professor in the department of Computer Sciences at the University of Wisconsin-Madison. She received her Ph.D. degree from Cornell University. Her research interests include Human-Computer Interaction, accessibility, augmented and virtual reality, and mobile interaction. She designs systems and interaction techniques to empower people with diverse abilities both in real-life and virtual worlds.

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Open Access Tools and libraries for virtual reality (OAT) Workshop Overview

Virtual reality researchers and developers need tools to develop state of the art technologies that will help advance knowledge. Promoting open-Source tools which can be modified or redistributed will be of great help for doing this. Open-Source tools are one means to propagate best practice as they lower the barrier to entry for researchers from an engineering point of view, while also embodying the prior work on which the tools were built. Open access tools are also critical to eliminate redundancies and increase world research collaboration in VR. At a time that academic research is growing it also needs to move as fast as industry, collaboration and shared tools are the best way to do it. In this scenario, it is more important than ever that academic research builds upon best practices and results to amplify impact in the broader field.

Description

Driven by uptake in consumer and professional markets, virtual reality technologies are now being developed at a significant pace. Open access tools are also critical to eliminate redundancies and increase world research collaboration in VR. At a time that academic research needs to move as fast as the industry, collaboration and shared tools are the best way to do it. We will gather creators and users of open-access libraries ranging from avatars (like the Microsoft Rocketbox avatar library) to animation to networking (Ubiq toolkit) to explore how open access tools are helping advance the VR community. We invite all researchers to join the second edition of this workshop and learn from existing libraries. We also invite submissions on technical and systems papers that describe new libraries and or new features of existing libraries. In this workshop, we will explore these open-access tools, their accessibility, and what type of applications they enable. Finally, we invite users of current libraries to submit their papers and share their learnings while using these tools. All papers and repos will be collected and curated in the workshop website similar to the one used for last year's edition: <https://openvrlab.github.io/>

Workshop topics

- Open-source libraries and tools (from avatars to AI to tracking to networking)
- Research libraries and tools
- New tools, new features, new repos
- Usage of libraries/tools
- Open datasets

Format and submission guidelines

Submissions should include a title, a list of authors, and a 2-page description of the proposed topic in TVCG format. Additional pages can be considered on a case-by-case basis, but you should check with the workshop organizers (m.volonte@northeastern.edu) before the submission deadline. Acceptable paper types are work-in-progress, research papers, position papers, or commentaries. Submissions will be reviewed by the organizers and accepted submissions will give a 10-minute talk with a panel discussion at the end of the session. At least one author must register for the workshop. Selected submissions will get the opportunity to be extended to articles to be considered for a special issue. To submit your work, visit <https://new.precisionconference.com/vr>

Important dates (tentative)

- Submission deadline: 10 January
- Notification of acceptance: 15 January
- Camera-ready deadline: 22 January
- Expected workshop date: 25 or 26 March 2023
- The workshop will be online: we will use Zoom and chat systems like Slack.

Tentative agenda for the workshop

0:00-0:10: Introduction by the organizers

0:10-1:00: Short presentations of the accepted papers: 5 min per submission, 2 min talk + questions

1:00-1:30: Short break and joining breakout rooms

1:30-1:45: Discussion in the breakout rooms

1:45-2:00: Presentations of the four breakout rooms and general discussion

2:00-2:15: Closing and call for getting involved in Open Sourcing efforts

For questions and comments, please contact Primary organizer: matias Volonte - m.volonte@northeastern.edu