

Education	Portland State University Ph.D. in Computer Science	2012 - 2017
	Portland State University Bachelor of Science in Computer Science	2010 - 2012
	Ho Chi Minh City University of Science Bachelor of Science in Computer Science	2007 - 2009
Research Interests	Human-Computer Interaction Virtual Reality Augmented Reality	
Honors & Awards	Best Paper Honorable Mention Award, ACM CHI Presidential Award for Academic Achievements, Portland State University Maseeh Fellowship, Portland State University Best Paper Honorable Mention Award, ACM CHI Best Paper Honorable Mention Award, ACM CHI	2017 2017 2015 2015 2013
Experience	Research Scientist 601 Townsend St, San Francisco, CA 94103 My research focuses on building novel interfaces and interactions for content creation in virtual and augmented reality, viewing and editing video, new forms of learning, and collaboration technologies. I also work with product teams in technology transfer. Research <ul style="list-style-type: none">• <i>Tutorial and communication tools in VR/AR</i>: publications in CHI 2019 and CSCW 2020.• <i>Novel authoring interfaces and interactions in VR/AR</i>: publications in CHI 2020 and IEEE VR 2020; public demo at Adobe Max 2019 (<i>ProjectPronto</i>).• <i>VR video editing</i>: publications in CHI 2017, UIST 2017, and CHI 2018; technology transfer in Premiere Pro and After Effects. Tech transfer <ul style="list-style-type: none">• <i>Equirect Navigator</i>: Shipped in Premiere Pro in March 2018. Enable users to see the entire 360 footage in a rectilinear format and quickly change viewpoint.• <i>Theater Mode</i>: Shipped in Premiere Pro and After Effects in October 2018. Enable non-VR editors to preview rectilinear footage in a home theater environment in VR. Research Intern San Francisco, CA Work with Stephen DiVerdi and Aaron Hertzmann in the Creative Technologies Lab to research and develop new interfaces for Virtual Reality.	Adobe Research 30 Oct 2017 – present
	Research projects <ul style="list-style-type: none">• <i>Vremiere: In-headset Virtual Reality Video Editing (Summer 2016)</i>: Develop a video editing system that allows editors to edit spherical video in the Oculus Rift headset. Outcomes:<ul style="list-style-type: none">– Accepted paper and best paper honorable mention award at ACM CHI 2017.– Selected to demo at Adobe Max 2016.– Media coverage CNET, UploadVR, RoadToVR.– Became the foundation to building Premiere Pro's VR features, which granted the Premiere Pro team the prestigious Red Shark industry award.	

- *CollaVR : Collaborative In-Headset Review for VR Video (Fall 2016)*: Develop an application that enables multiple filmmakers to collaborate and review VR video together while fully immersed in VR.

Graduate Research Assistant

Portland, OR

Portland State University

15 Sep 2012 – 16 Sep 2017

Research and develop new interfaces and techniques to enable novel video interaction experience. Some of my research include: *Video Summagator*, a 3D interface that lets users quickly understand the video content through interactive volume visualization; *Responsive Software Tutorial*, a video player for software tutorial that lets users directly interact with the software shown in the video to quickly locate meaningful content; and *GazeNoter*, a gaze-based video player for lecture video that tracks user gaze to highlight interesting lecture notes and automatically control the video playback.

Graduate Teaching Assistant

Portland, OR

Portland State University

2012 – 2017

CS 333 (Introduction to Operating Systems)

CS 202 (Programming Systems)

CS 410/510 (Cloud and Cluster Data Management)

Publications

Pronto: Rapid Augmented Reality Video Prototyping Using Sketches and Enaction

Germán Leiva, Cuong Nguyen, Rubaiat Habib Kazi, Paul Asente

In Proceedings of *CHI 2020*

Slicing Volume: Hybrid 3D/2D Multi target Selection Technique for Dense Virtual Environments

Roberto A. Montano-Murillo, Cuong Nguyen, Rubaiat Habib Kazi, Sriram Subramanian, Stephen DiVerdi, Diego Martinez-Plasencia¹

In Proceedings of *IEEE VR 2020 (Conference Paper)*

Challenges and Design Considerations for Multimodal Asynchronous Collaboration in VR

Kevin Chow, Caitlin Coyiuto, Cuong Nguyen, Dongwook Yoon

In Proceedings of *ACM CSCW 2019*

TutoriVR: A Video-based Tutorial System for Design Applications in Virtual Reality

Balasaravanan Thoravi Kumaravel, Cuong Nguyen, Stephen DiVerdi, Bjoern Hartmann

In Proceedings of *CHI 2019 (23.8% acceptance rate)*

Designing In-Headset Authoring Tools for Virtual Reality Video

Cuong Nguyen

Ph.D. Dissertation in Computer Science, USA, December 2017

Depth Conflict Reduction for Stereo VR Video Interfaces

Cuong Nguyen, Stephen DiVerdi, Aaron Hertzmann, Feng Liu

In Proceedings of *CHI 2018 (25.7% acceptance rate)*

CollaVR : Collaborative In-Headset Review for VR Video

Cuong Nguyen, Stephen DiVerdi, Aaron Hertzmann, Feng Liu

In Proceedings of *UIST 2017 (22.5% acceptance rate)*

Vremiere: In-Headset Virtual Reality Video Editing

Cuong Nguyen, Stephen DiVerdi, Aaron Hertzmann, Feng Liu

In Proceedings of *CHI 2017 (25% acceptance rate)*

Best Paper Honorable Mention Award

Gaze-based Notetaking for Learning from Lecture Videos

Cuong Nguyen and Feng Liu

In Proceedings of *CHI 2016 (23.4% acceptance rate)*

Hotspot: Making Computer Vision More Effective for Human Video Surveillance

Cuong Nguyen, Wu-chi Feng, and Feng Liu

Information Visualization (2016)

Making Software Tutorial Video Responsive

Cuong Nguyen and Feng Liu
In Proceedings of *CHI 2015* (23% acceptance rate)
Best Paper Honorable Mention Award

Direct Manipulation Video Navigation on Touch Screens
Cuong Nguyen, Yuzhen Niu, and Feng Liu
In Proceedings of *MobileHCI 2014* (21.3% acceptance rate)

Direct Manipulation Video Navigation in 3D
Cuong Nguyen, Yuzhen Niu, and Feng Liu
In Proceedings of *CHI 2013* (20% acceptance rate)
Best Paper Honorable Mention Award

Video Summagator: An Interface For Video Summarization and Navigation
Cuong Nguyen, Yuzhen Niu, and Feng Liu
In Proceedings of *CHI 2012* (23% acceptance rate)

Patents

U.S. Patent 16/428,201: Dynamically Rendering 360-Degree Videos Using View-Specific-Filter Parameters. May 2019 (pending)

U.S. Patent 16/163,428: Interfaces and Techniques to Retarget 2D Screencast Videos into 3D Tutorials in Virtual Reality, October 2018 (pending)

U.S. Patent 15/935,976: Dynamically Modifying Virtual and Augmented Reality Content to Reduce Depth Conflict Between User Interface Elements and Video Content, March 2018 (pending)

U.S. Patent 15/680,528: Collaborative Interaction with Virtual Reality Video, August 2017 (pending)

U.S. Patent 15/337,457: Facilitating editing of virtual-reality content using a virtual-reality headset, October 2016 (pending)

Activities

Invited talks

Designing In-Headset Authoring Tools for Virtual Reality Video
at UC Berkeley (Nov. 2018) and Stanford (Nov. 2018) universities

Papers reviewed (total: 20)

Reviewers for IEEE VR 2018, ACM UIST 2018, ACM ISS 2018, ACM CHI 2019, ACM ISS 2017, ACM Multimedia 2017, IEEE Transactions on Multimedia 2016, CHI WIP 2013, Information Visualization, ACM SIGGRAPH ASIA 2020

Conference organizing: Associate Chair for ACM CHI 2020.

Conference presentation

at CHI 2019, CHI 2018, CHI 2017, CHI 2016, CHI 2015, MobileHCI 2014, CHI 2013, CHI 2012

Interns supervised

2018 - Bala Kumaravel, UC Berkeley
2018 - Roberto Antonio Montano Murillo, University of Sussex
2019 - Megha Nawhal, Simon Fraser University
2019 - German Leiva, Universite Paris-Saclay
2019 - Jeremy Hartmann, University of Waterloo

Skills

Programming languages: C++, Python, C#, SQL

Virtual Reality development: Oculus Rift SDK, OpenVR, Unity, OpenGL, network (ZeroMQ), spatial audio (Steam Audio, Hoa Library)

Video interaction and visualization: video processing (OpenCV), GUI design and programming (OpenFrameworks, Processing, FLTK), visualization (VTK), eye tracking (Tobii EyeX SDK), depth sensor (Intel RealSense SDK), statistical analysis (SPSS)

References

Feng Liu, Associate Professor, advisor at Portland State University, fliu@cs.pdx.edu

Wu-chi Feng, Chair / Professor, Portland State University, wuchi@cs.pdx.edu

Stephen DiVerdi, Principal Scientist, mentor at Adobe Research, diverdi@adobe.com

Aaron Hertzmann, Principal Scientist, mentor at Adobe Research, hertzmann@adobe.com

Mira Dontcheva, Principal Scientist, manager at Adobe Research, mirad@adobe.com