

# Wallace S. Lages

HUMAN-COMPUTER INTERACTION · MIXED REALITY

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## Education

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### Ph.D. in Computer Science

VIRGINIA TECH (VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY)

- Dissertation: Walk-Centric User Interfaces for Mobile Augmented Reality
- Thesis Advisor: Dr. Doug Bowman, Virginia Tech
- Thesis Committee: Dr. Nicholas Polys, Dr. Joseph Gabbard, Dr. Chris North
- Research assistantship funded by the US Office of Naval Research

*Blacksburg, United States*

*Aug. 2014 - Aug. 2018*

### M.S. in Computer Science

UFMG (UNIVERSIDADE FEDERAL DE MINAS GERAIS)

- Dissertation: A Parallel Architecture for Rendering Multiple Points of View
- Dissertation Advisor: Dr. Dorgival Olavo Guedes, Universidade Federal de Minas Gerais
- CAPES Fellowship (Brazilian Federal Agency for Higher Studies)

*Belo Horizonte, Brazil*

*Mar. 2006 - Dec. 2008*

### B.S. in Computer Science

UFMG (UNIVERSIDADE FEDERAL DE MINAS GERAIS)

- Senior Project: Using IP Cameras in Computer Vision
- Advisor: Dr. Mario Montenegro Campos
- CNPq Fellowship (Brazilian National Council for Scientific and Technological Development)

*Belo Horizonte, Brazil*

*Mar. 2002 - Dec. 2005*

## Appointments

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### Assistant Professor

SCHOOL OF VISUAL ARTS, VIRGINIA TECH

- Faculty of the Creative Technologies Program
- Member, Center for Human-Computer Interaction

*Blacksburg, United States*

*2018 - Present*

### Assistant Professor

DEPARTMENT OF COMPUTER SCIENCE, VIRGINIA TECH

- Courtesy Appointment

*Blacksburg, United States*

*2019 - Present*

### Member - College Curriculum Committee

COLLEGE OF ARCHITECTURE AND URBAN STUDIES, VIRGINIA TECH

- Representative of the School of Visual Arts.
- Review of college course and program proposals.

*Blacksburg, United States*

*2019 - Present*

### Assistant Professor

SCHOOL OF FINE ARTS, UFMG

- Tenured-equivalent position obtained in 2014
- On leave from fall 2014 to 2018

*Belo Horizonte, Brazil*

*2010 - 2018*

### Director - Digital Production Laboratory

SCHOOL OF FINE ARTS, UFMG

- Responsible for lab administration and operations

*Belo Horizonte, Brazil*

*Mar. 2013 - Jul. 2014*

### Member - Undergraduate Research Evaluation Committee

SCHOOL OF FINE ARTS, UFMG

- Approved proposals for undergraduate research projects
- Selected projects for undergraduate research awards

*Belo Horizonte, Brazil*

*Mar. 2010 - Jul. 2014*

### Associate Director - Laboratory for Research and Experimentation

RODRIGO MELO FRANCO DE ANDRADE FOUNDATION

- Mentored undergraduate and graduate students
- Assisted with lab administration and operations

*Belo Horizonte, Brazil*

*Mar. 2011 - Jul. 2014*

### **Chair - Infrastructure Committee**

ANIMATED CINEMA AND DIGITAL ARTS PROGRAM, UFMG

- Committee responsible for managing program facilities.

*Belo Horizonte, Brazil*

*Mar. 2012 - Dec. 2013*

### **Associate Chair - Department Photography, Performing Arts, and Cinema**

SCHOOL OF FINE ARTS, UFMG

- Chairing department executive committee
- Overseeing processes of promotion, leave, and sub-committees
- Overseeing the use of departmental facilities

*Belo Horizonte, Brazil*

*Jul. 2010 - Jun. 2012*

## **Research Experience**

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### **Principal Investigator - Reality Design Studio**

SCHOOL OF VISUAL ARTS, VIRGINIA TECH

- Research on virtual reality, augmented reality, and digital games

*Blacksburg, United States*

*2014 - present*

### **Graduate Research Assistant**

DEPARTMENT OF COMPUTER SCIENCE, VIRGINIA TECH

- 3DI group, Center for Human-Computer Interaction
- Advisor: Dr. Doug Boman
- Research on interaction techniques, augmented and virtual reality

*Blacksburg, United States*

*2014 - 2018*

### **Co-Principal Investigator**

DEPARTMENT OF PHOTOGRAPHY, PERFORMING ARTS, AND CINEMA, UFMG

- PI: Dr. Francisco Marinho
- Research on interactive digital art and digital games

*Belo Horizonte, Brazil*

*2010 - 2014*

### **Graduate Research Assistant**

SCHOOL OF ARCHITECTURE, UFMG

- PI: Dr. Maria Lucia Mallard
- Research and development of a low-cost virtual reality CAVE for architectural instruction

*Belo Horizonte, Brazil*

*Oct. 2006 - Jan. 2009*

### **Undergraduate Research Assistant**

DEPARTMENT OF COMPUTER SCIENCE, UFMG

- Advisor: Dr. Mario Campos
- Sensornet Project - Mobile robotics research: hardware, software, and firmware development

*Belo Horizonte, Brazil*

*Jan. 2004 - Jan. 2005*

### **Student Radioastronomy Group**

DEPARTMENT OF PHYSICS, UFMG

- Advisor: Dr. Wagner Corradi
- Design and development of an C-band amateur radio telescope

*Belo Horizonte, Brazil*

*Jan. 2002 - Feb. 2003*

## **Industry Experience**

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### **Founder, COO, and board member**

ILUSIS INTERACTIVE GRAPHICS

- Strategic planning
- Proposal development
- Led research and development activities

*Belo Horizonte, Brazil*

*2006 - 2014*

### **Freelance Software Developer**

HOLDLINE AUDIO TECNOLOGIA

- Firmware development for a micro controlled telephony system
- Software architecture design, cryptography and network routines.

*Belo Horizonte, Brazil*

*Mar. 2001 - Apr. 2001*

### **Founder, Disturbio Software Interativo**

FUNDACAO MINEIRA DE SOFTWARE, CENTER FOR ENPRENEURSHIP

- Engine code for character animation and scene editing
- Managed the development team (2 programmers, 3 artists)

*Belo Horizonte, Brazil*

*Feb. 2000 - Jun. 2001*

## Programmer, Aluminum Division

ATAN SISTEMAS DE AUTOMACAO (NOW ACCENTURE)

- Developed a remote terminal unity simulator in QNX
- Graphic interface programmer

Belo Horizonte, Brazil

Feb. 1997 - Dec. 1999

## Producer and Programmer

VIRSAT SISTEMAS

- Managed the development team of a PC game

Belo Horizonte, Brazil

Oct. 2006 - Jan. 2007

# Sponsored Research and Other Grant Awards

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## External Funding

- FW-HTF Theme 2: enabling the functional use of powered exoskeletons for industrial applications and understanding the socioeconomic consequences of exoskeleton technology application. National Science Foundation, USD 2,981,870. Srinivasan D.(PI); Asbeck A.; Ge S.(Co-PI); Kim SW.; Lau N.(Co-PI); Leonessa A.(Co-PI); Nussbaum M.(Co-PI); **Lages W. S.**, 09/15/2018-08/31/2023. Responsible for 0.5% (\$14,284) - Ongoing
- Content management for always-on augmented reality interfaces. Google's AR/VR Research Awards, USD 142,802. Bowman, D. A (co-PI); **Lages W. S.**(co-PI); Macintyre, B.(co-PI); 22-01-2019 to 12-11-2019. Responsible for 29% (\$41,133) - Ongoing

## Virginia Tech Internal Funding

- Collaboration on virtual reality programming environments. 4-VA Research Grant, USD 34,998, 34000. **Lages W. S.** (PI); Ryan Patton (14%); Yotam Gingold (14%); 3/12/2020-12/31/2020. Responsible for 71% (\$24,998) - New
- Using robotic platforms to provide large scale haptics in virtual reality. Virginia Tech ICAT SEAD Grant, USD 25,000. **Lages W. S.**(PI); Nguyen, P.; Leonessa, A. (Co-PI); July 2019 - July 2020. Responsible for 100% (\$25,000) - New
- Field dependency and implications to virtual environments. Virginia Tech ICAT Mini SEAD Grant, USD 3,000. **Lages W. S.**(PI); Oggle, T.; October 2019 - May 2020. Responsible for 100% (\$3,000) - New
- Virginia tech nasa s.u.i.t.s. challenge. Department of Computer Science, Institute of Creative Arts and Technologies, Office for Undergraduate Research, USD 12,500. **Lages W. S.** (co-PI); Dee M.(co-PI, 25%); Nguyen P.(co-PI, 25%) 8/1/2018-05/31/2019. Responsible for 50% (\$6,250)
- Next-level vr: Integrating live-action 3d humans into synthetic environments in real time. Virginia Tech ICAT Mini SEAD Grant and CHCI, USD 4,000. Perkinson, J.(PI, 33%); **Lages W. S.**; Nguyen, P. (33%); Jan 2019 - May 2019. Responsible for 33% (\$1,133)

# Research and Creative Activities

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## Awards, Prizes, and Recognitions

- 2020 - Board Choice Award, Live Action VR. With Justin Perkinson, Phat Nguyen, Creativity + Innovation Day (May 2020). Group.
- 2019 - Best Demo Award, with Doug A. Bowman - 7th ACM Symposium on Spatial User Interaction (October 2019).
- 2018 - NASA S.U.I.T.S. (Spacesuit User Interface Technologies for Students) acceptance, with Meaghan Dee and Phat Nguyen. Group.

## Articles in Refereed Journals (both print and electronic)

- **Lages, W. S.** and D. A. Bowman. Move the object or move myself? walking vs. manipulation for the examination of 3d scientific data. *Frontiers in ICT*, 5, Jul 2018. doi: [10.3389/fict.2018.00015](https://doi.org/10.3389/fict.2018.00015). 9 citations, 2,813 views (04/2020)
- A.R.D. Silva, **Lages, W.S.**, and L. Chaimowicz. Boids that see: Using self-occlusion for simulating large groups on gpus. *Computers in Entertainment (CIE)*, 7(4):1–20, 2009. URL <https://doi-org.ezproxy.lib.vt.edu/10.1145/1658866.1658870>
- **Lages, W.**, C Cordeiro, and D Guedes. Performance analysis of a parallel multi-view rendering architecture using light fields, Oct 2009. doi: [10.1007/s00371-009-0371-z](https://doi.org/10.1007/s00371-009-0371-z)

## Articles in Refereed Conference Proceedings

Star\* indicates a student advised. Plus+ indicates the presenter.

- Imamov, Samat\*, Monzel, Daniel\*, and **Lages, Wallace**<sup>+</sup>. Where to display? how interface position affects comfort and task switching time on glanceable interfaces. In *2020 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, pages 851–858, Mar 2020. doi: [10.1109/VR46266.2020.00012](https://doi.org/10.1109/VR46266.2020.00012)
- **Lages, Wallace**, Li, Yuan<sup>+</sup>, Lee Lisle, Tobias Höllerer, and Doug Bowman. Enhanced geometric techniques for point marking in model-free augmented reality. In *2019 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, pages 301–309. IEEE, 2019

- Li, Yuan<sup>+</sup>, Feiyu Lu, **Lages, Wallace S.**, and Doug Bowman. Gaze direction visualization techniques for collaborative wide-area model-free augmented reality. In *Symposium on Spatial User Interaction*, SUI '19, New York, NY, USA, 2019. Association for Computing Machinery. doi: [10.1145/3357251.3357583](https://doi.org/10.1145/3357251.3357583)
- Behzad Behbahani, Armaghan<sup>+</sup>, **Lages, Wallace S.**, and Aisling Kelliher. A multisensory design probe: An approach for reducing technostress. In *Proceedings of the Thirteenth International Conference on Tangible, Embedded, and Embodied Interaction*, TEI '19, pages 459–466, New York, NY, USA, 2019. ACM. doi: [10.1145/3294109.3300992](https://doi.org/10.1145/3294109.3300992)
- **Lages, Wallace S.**<sup>+</sup> and Doug A. Bowman. Walking with adaptive augmented reality workspaces: Design and usage patterns. In *Proceedings of the 24th International Conference on Intelligent User Interfaces*, IUI '19, pages 356–366, New York, NY, USA, 2019. ACM. doi: [10.1145/3301275.3302278](https://doi.org/10.1145/3301275.3302278)
- Yu, R<sup>+</sup>, **Lages, WS**, M Nabiyouni, B Ray, N Kondur, V Chandrashekar, and DA Bowman. Bookshelf and bird: Enabling real walking in large vr spaces through cell-based redirection. In *2017 IEEE Symposium on 3D User Interfaces (3DUI)*, IEEE Symposium on 3D User Interfaces, pages 116–119. Los Angeles, CA, IEEE, Jan 2017. URL <http://ieeexplore.ieee.org/document/7893327/>
- **Lages, W**<sup>+</sup>, C Cordeiro, and D Guedes. A parallel multi-view rendering architecture. In *SIBGRAPI 2008: XXI Brazilian Symposium on Computer Graphics and Image Processing*, SIBGRAPI - Brazilian Symposium on Computer Graphics and Image Processing, pages 270–277. Campo Grande, BRAZIL, IEEE COMPUTER SOC, Jan 2008. doi: [10.1109/SIBGRAPI.2008.41](https://doi.org/10.1109/SIBGRAPI.2008.41)
- da Silva, AR<sup>+</sup>, **Lages, WS**, and L Chaimowicz. Improving boids algorithm in gpu using estimated self occlusion. In *Proceedings of SBGames' 08: VII Brazilian Symposium on Games and Digital Entertainment*, pages 41–46. SBC, 2008
- L. Arantes, A. Dubiela, P. Magalhaes, and **Lages, W.**<sup>+</sup> O projeto visual do jogo peixis. In *Proceedings of SBGames' 07: VI Brazilian Symposium on Games and Digital Entertainment*. SBC, 2007
- **Santos Lages, W**, Ivanenko Salgado, A<sup>+</sup>, A Vilas-Boas, C Megale Leite, A Haibara, T Mota, J Henriques Silva, J Carvalho Tavares, G Avelar, M Gino, F Marinho, F Fernandino, and P Gobira. Construction of an interactive space of life sciences: finding a way through the difficult dialogue between scientists and artists, May 2014

## Performances, Exhibitions, Compositions

- **Lages, W. S.**, H. Okumura, C. Constantikes, and G. Tatum. Between earth and air. Simply Elemental, Hahn Horticultural Garden - Virginia Tech, Blacksburg, USA, 01 August - 30 September 2019. Group Exhibition. Juried
- **Lages, W. S.** Datasphinx. SOVA Faculty Triennial Exhibition, Moss Arts Center, Blacksburg, USA, 04 April 2019. Group Exhibition. Curator: Margo Crutchfield
- **Lages, W. S.** Multiple realities. XXI Generative Art Conference, Museum of Natural History. Verona, Italy, 20 Dec 2018. Stage performance. Juried
- **Lages, W. S.**, P. Gobira, and F. Marinho. Better hands. ACM Creativity and Cognition Art Exhibition., Artscience Museum, Singapore, 27 Jun - 30 Jun 2017. Robotic artwork. Group Exhibition. Juried
- K. Gandhi, M. Bergamo, J. Bethonico, P. Gobira, and **Lages, W. S.** Coração. Espaço Interativo de Ciências da Vida - Inaugural Exhibition, Belo Horizonte, Brazil, 2013. Interactive artwork. Group Exhibition. Juried
- **Lages, W. S.** Trem de cataguases. 43 UFMG Winter Art Festival., Cataguases, Brazil., 2011. Interactive Projection. Group Exhibition. Invited
- F. Marinho, A. Ribeiro da Silva, and **Lages, W. S.** Mesa interativa da vale. Vale Itinerant Exhibition., Belém, Paragominas, Paraopebas, Brazil. Interactive table. Group Exhibition. Invited
- F. Marinho and **Lages W. S.** Fire. Bienal Zero – Bienal Universitária de Arte, Belo Horizonte, Brazil. Interactive installation. Group Exhibition. Invited
- F. Marinho, **Lages, W. S.**, and A. Ribeiro da Silva. Piracema. Inaugural Exhibition, Espaço Israel Pinheiro. Brasília, Brazil. Digital projection. Group Exhibition. Invited
- S. Clear and **Lages, W. S.** Visual poems. 43 UFMG Winter Art Festival, Cataguases, Brazil. Interactive Installation. Group Exhibition. Invited

## Referred Papers and Posters presented a Professional Meetings

Star\* indicates a student advised. Plus<sup>+</sup> indicates the presenter.

- **Lages, Wallace**<sup>+</sup> and Doug Bowman. Adjustable adaptation for spatial augmented reality workspaces. In *Symposium on Spatial User Interaction*, SUI '19, New York, NY, USA, 2019. Association for Computing Machinery. doi: [10.1145/3357251.3358755](https://doi.org/10.1145/3357251.3358755)
- **Lages, Wallace**<sup>+</sup> and Doug Bowman. An adaptive interface for spatial augmented reality workspaces. In *Symposium on Spatial User Interaction*, SUI '19, New York, NY, USA, 2019. Association for Computing Machinery. doi: [10.1145/3357251.3360005](https://doi.org/10.1145/3357251.3360005). 2 citations and 62 views (04/2020)
- **Lages, W. S.** Exploring artistic multi-agent systems. In C Soddu and E Colabella, editors, *Proceedings of the XXI Generative Art Conference*, pages 368–375. Verona, Italy, Domus Argenia, Dec 2018
- Li, Y<sup>+</sup>, R Yu, L Zhang, **Lages, WS**, and Bowman, DA<sup>+</sup>. Climb, direct, stack: Smart interfaces for eleague contest, Mar 2018. doi: [10.1109/VR.2018.8446131](https://doi.org/10.1109/VR.2018.8446131)

- **Lages, WS<sup>+</sup>**, Y Li, and DA Bowman. Evaluation of environment-independent techniques for 3d position marking in augmented reality, Mar 2018. doi: [10.1109/VR.2018.8446055](https://doi.org/10.1109/VR.2018.8446055). 2 citations (04/2020)
- **Lages, Wallace S.** Walk-centric user interfaces. In *2018 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, pages 825–826, Mar 2018. doi: [10.1109/VR.2018.8446426](https://doi.org/10.1109/VR.2018.8446426)
- **Santos Lages, W<sup>+</sup>**, P Gobira, and F Marinho. Structural coupling on creative interfaces, Jun 2017. doi: [10.1145/3059454.3078860](https://doi.org/10.1145/3059454.3078860)
- Gobira, P<sup>+</sup> and **Lages W** Marinho, F. Artist talk: Better hands. Manizales, Colombia, 2017
- **Lages, WS<sup>+</sup>**, GA Arango, DH Laidlaw, JJ Socha, and DA Bowman. Designing capsule, an input device to support the manipulation of biological datasets, Jan 2016. URL <https://ieeexplore.ieee.org/abstract/document/7460067/>
- **Lages, WS<sup>+</sup>**, B Laha, W Miller, J Novotny, JJ Socha, DH Laidlaw, and DA Bowman. Effects of field of regard and stereoscopy and the validity of mr simulation for visual analysis of scientific data, Jan 2016. URL <https://ieeexplore.ieee.org/document/7504730/>
- **Lages, WS<sup>+</sup>**, M Nabiyouni, and L Arantes. Krinkle cube - a collaborative vr game using natural interaction, Jan 2016. doi: [10.1145/2968120.2987746](https://doi.org/10.1145/2968120.2987746)
- **Lages, W.** Ray, camera, action! a technique for collaborative 3d manipulation. In BH Thomas, R Lindeman, and M Marchal, editors, *2016 IEEE Symposium on 3D User Interfaces (3DUI)*, pages 281–282. Greenville, SC, IEEE, Jan 2016. URL <https://ieeexplore.ieee.org/abstract/document/7460080/>
- Hines, K<sup>+</sup>, **Lages, W**, N Somasundaram, and T Martin. Protecting workers with smart e-vest. In *Adjunct Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2015 ACM International Symposium on Wearable Computers, UbiComp/ISWC'15 Adjunct*, pages 101–104, New York, NY, USA, 2015. ACM. doi: [10.1145/2800835.2800881](https://doi.org/10.1145/2800835.2800881). location: Osaka, Japan numpages: 4 acmid: 2800881 keywords: multimodal, notification interfaces, response time, wearable
- **Lages, W<sup>+</sup>**, M Nabiyouni, J Tibau, and Bowman, DA<sup>+</sup>. Interval player: Designing a virtual musical instrument using in-air gestures. In *2015 IEEE Symposium on 3D User Interfaces (3DUI)*, pages 203–204, Mar 2015. doi: [10.1109/3DUI.2015.7131771](https://doi.org/10.1109/3DUI.2015.7131771)

## Oral Presentations

Star\* indicates a student advised. Plus<sup>+</sup> indicates a presenter.

- Next-level vr: Integrating live-action 3d humans into synthetic environments in real time. LSIE Transdisciplinary Communities Research Symposium, Moss Arts Center, Blacksburg, VA. Perkinson, J.<sup>+</sup>; **Lages W.S.<sup>+</sup>**; Nguyen, P.<sup>+</sup>; April 2, 2019
- The virginia tech nasa s.u.i.t.s. Innovation and Creativity Day, Moss Arts Center, Blacksburg, VA. **Lages W.S.<sup>+</sup>**, Dee M.<sup>+</sup>, Imamov S.<sup>+</sup>, Nguyen P.<sup>+</sup>, Blauvelt B.<sup>+</sup>, Sicar A.<sup>+</sup>, Haas D.<sup>+</sup>, Zhang L.<sup>\*</sup>, Harris E.<sup>+</sup>, Shen V.<sup>\*</sup>, Singer J.<sup>\*</sup> May 6, 2019
- The virginia tech nasa s.u.i.t.s. (spacesuit user interface technologies for students) design challenge team. ICAT Playdate, Moss Arts Center, Virginia Tech, Blacksburg, VA. **Lages W.S.<sup>+</sup>**, Nguyen P., Zhang L., Harris E., Shen V., Singer J.; April 12, 2019
- Next-level vr: Integrating live-action 3d humans into synthetic environments in real time. Innovation and Creativity Day, Moss Arts Center, Blacksburg, VA. Perkinson, J.<sup>+</sup>; **Lages W.S.<sup>+</sup>**; Nguyen, P.<sup>+</sup>; Tianyu Ge<sup>++</sup> May 6, 2019
- Understanding the possible: Contributions from arts, science, and engineering. ICAT Playdate, Moss Arts Center, Virginia Tech, Blacksburg, VA. **Lages W.S.<sup>+</sup>**; November 22, 2019

## Courses Developed

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### 2018

**ART 3504 / 5704 TS: Game Design** - This course introduces the conceptual foundations of games (digital or otherwise). It looks both into theoretical frameworks and game design practice.

**ART 3504 / 5704 TS: AR / VR** - This course introduces fundamental concepts involved in the design of augmented reality (AR) and virtual reality (VR) experiences. It covers history and technology of mixed reality systems, human senses and perception, interaction techniques, and user experience aspects.

### 2010 - 2014

**Interactive Installations** - Introduction to electricity and electronics, installation design, embedded programming, projection mapping, interactive music and 3D interfaces (tools: Arduino, Kinect, Wiimote, Resolume, Pd, Open Frameworks, Processing). Undergraduate Course.

**Games I** - Analysis, conception and design of games. Game design, level design, character design, balancing, narratives, pitches. Undergraduate course.

**Games II** - Design and development of game prototypes. Theory on project planning, scene graph, rendering, collision detection, FSM, adversarial search and pathfinding. Undergraduate Course.

**Atelier: Digital Art I & II** - Project supervision: conception, design, implementation and critical analysis. Most projects involve physical computing, computer games or interactive narratives. Undergraduate Course.

**Introduction to Interactive Narratives** - Co-taught with Dr. Carlos Falci. My contribution: sections on location-based narratives. Undergraduate Course.

## Professional Service

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### Review Panels and Committees

- 2020 - Reviewer for ACM DIS Conference Papers (1 paper)
- 2020 - Program Committee Member, IEEE VR 2020 Conference (AC for 11 papers)
- 2020 - Reviewer for IEEE VR 2020 Conference Papers (6 papers)
- 2019 - Reviewer for IEEE VR 2019 Conference Papers (3 papers)
- 2019 - Reviewer for SBGames 2019 (2 papers)
- 2019 - Reviewer for ACM IDC - Works-in-Progress (1 paper)
- 2018 - Reviewer for IEEE VR 2018 Conference Papers (1 paper)
- 2018 - Reviewer for SBGames 2018 Computing Track Papers (2 papers)
- 2018 - Reviewer for CHI 2018 Late Breaking Work (1 paper)
- 2017 - Reviewer for CHI Play Full Papers (1 paper)
- 2017 - Reviewer for SBGames 2017 Conference Papers (4 papers)
- 2017 - Reviewer for ACM 3DUI 2017 Papers and Technotees (2 papers)
- 2016 - Reviewer for SBGames 2016 (4 papers)
- 2015 - Reviewer for SBGames 2015 (4 papers)
- 2014 - Reviewer for SBGames 2014 (4 papers)
- 2013 - Reviewer for SBGames 2013 (4 papers)
- 2012 - Reviewer for SBGames 2012 (4 papers)
- 2011 - Reviewer for SBGames 2011 (6 papers)
- 2010 - Reviewer for SBGames 2010 (5 papers)
- 2009 - Reviewer for SBGames 2009 (1 paper)
- 2008 - Reviewer for SBGames 2008 (2 papers)
- 2008 - Reviewer for CLEI 2008 (onferencia Latinoamericana de Informática) (1 paper)
- 2008 - Local chair for Computing Posters, SBGames 2008
- 2020 - Virginia Tech Center for HCI Annual Workshop: Immersive Storytelling - Co-Organizer with Mike Horning - Postponed

### Diversity

- 2019 - present: C+I Strategic Growth Area Diversity & Inclusion Ambassador
- *Tech Professor using Technology to Stimulate Diversity*, pages 28–29. ColorsVA Magazine, October 2018. Piece about my work promoting diversity in technology through gaming and virtual reality
- *Live TV Interview: ColorsVA is highlighting individuals for Hispanic Heritage Month*. Living Local, Fox WFXR, October 16th, 2018. TV channel focused on the county areas of Roanoke, Montgomery, Campbell, Appomattox, Amherst, Botetourt, Craig, Franklin and Bedford. URL <https://www.wfxrtv.com/lifestyle/living-local/colorsva-is-highlighting-individuals-for-hispanic-heritage-month/>

### Presentations

- Understanding the possible: Contributions from arts, science, and engineering. ICAT Playdate, Moss Arts Center, Virginia Tech, Blacksburg, VA. **Lages W.S.**<sup>+</sup>; November 22, 2019

- Virtual sokoban. Virginia Tech Science Festival, Moss Arts Center, Virginia Tech, Blacksburg, VA. **Lages W.S.**<sup>+</sup>; Daniel Monzel<sup>++</sup>, Phat Nguyen<sup>+</sup>, Nanlin Sun<sup>++</sup>, Sara Moghaddam<sup>++</sup>. November 22, 2019
- Presentation. *Roanoke Star City Arts Festival*. Science Museum of Western Virginia. Presentation of the Hokienauts AR Interface in the SMWW tent. 24 Aug. 2019
- Presentation. *50th anniversary of the Apollo 11 Day landing*. Science Museum of Western Virginia. Presentation of the Hokienauts AR Interface to museum visitors. 20 Jul. 2019

## University Service

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### Department, college, and university service, including administrative responsibilities

**2018 to present** - Member of the Graduate Program and Degree Committee. School of Visual Arts, Creative Technologies MFA program. Program redesign, admission and infrastructure meetings.

**2019 to present** - Member of College Curriculum Committee Member. College of Architecture and Urban Studies. Review of course and program proposals.

**2019 to present** - Member of Executive Committee. Virginia Tech's Creativity + Innovation Destination Area. Advising on diverse initiatives related to curriculum, outreach, infrastructure, and research.

**2019** - Judge for Final projects of CS 4644: Creative Computing Studio. 1-05-2019. Professor Steve Harrison.

**2018** - Envisioned and adapted ICAT's Library 122 space to be used as Virtual Reality studio. The space is now a critical resource for a practice-based virtual reality teaching.

### Service to students—involvement in co-curricular activities, advising student organizations, etc.

**2018 to present** - Main faculty supervisor of the Hokienauts team. Hokienauts is an interdisciplinary VT team competing on the NASA SUITS Challenge. The team is composed by 2 faculty and 11 students from computer science, graphic design, engineering, and creative technologies.

**2019** - Graduate School Recommendation Letters: 1

**2018** - Organized a public exhibition of student's final projects from *TS: Augmented and Virtual Reality*. Virginia Tech Newman Library, 04 December 2018.

**2018** - Graduate School Recommendation Letters: 1

## Other Pertinent Activities

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### Professional Development Activities

**SAIG** - Short Course on Model Selection in R. Virginia Tech Statistical Applications and Innovations Group. 2.5 hours (9-13-2019)

**SAIG** - Your Research Protocol: Tips for successful submission. Virginia Tech Statistical Applications and Innovations Group 3 hours. (10-22-2019)

**Grant** - New Faculty Mentoring Grant. Mentoring project supported by the Office of Provost. \$1,500. (03-11-2019 to 05-01-2021)

**NLI - New Faculty Community** - Professional Development for new faculty (08-15-2018)

**SIRC - COI CITI Training Online** - Research compliance training provided by the Office of the Vice President for Research and Innovation (11/1/2018)

**SIRC - RCR CITI Training Online** - Research compliance training provided by the Office of the Vice President for Research and Innovation (11/1/2018)

**SIRC** - Human Subjects Training (09-01-2014)

**SIRC** - Social & Behavioral Research (09-29-2014)