Leonardo Pavanatto

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Objective and Interests

Seeking a research internship position for Summer 2023, in the field of 3D User Interaction. Research interests include how to use augmented reality to **improve worker's productivity**, and design novel tools to **enhance content creation processes**.

Education

Ph.D. in Computer Science

Aug 2019 - Current

Virginia Tech, GPA: 3.94/4.0

- **Concentration:** Human-Computer Interaction (Advisor: Doug Bowman)

M.Sc. in Computer Science

Mar 2019

PUCRS, GPA: 9.32/10.0

- **Thesis:** *3D Modeling of Large Structures in Augmented Reality* (Advisors: Marcio Pinho, Doug Bowman)

B.Eng. in Computer Engineering

Dec 2016

PUCRS, GPA: 8.82/10.0

- **Study abroad:** Illinois Tech, GPA: 3.87/4.0

Selected Experience and Projects

Microsoft Research

Summer 2022

Research Intern

- **Cross Device Interaction:** Designed novel interaction paradigms for transferring UI elements across devices.

Microsoft Research

Summer 2021

Research Intern

- **VR Monitors:** Conducted formal, summative, user studies to understand the effects of replacing physical monitors with VR virtual monitors; presented findings at internal seminars and through a paper (to be published).

Virginia Tech

Aug 2019 - Current

Student and Graduate Research Assistant

- **AR Monitors:** Designed novel approaches for extending or replacing physical monitors with virtual ones to enhance user experience and productivity; results of a formal user study were published at IEEE VR 2021
- **Storytelling:** Led a team submission to the IEEE VR 3DUI Contest 2020 about immersive storytelling and increasing empathy towards people with disabilities through embodiment.
- **Orientation:** Oriented students on their final projects in the Virtual Reality and HCI capstone classes.

PUCRS

Mar 2017 - Feb 2019

Graduate Research Assistant

- **Situated Modeling:** Designed an AR application for situated modeling in architecture, using Unity 3D (C#) and Microsoft HoloLens; results were published at ACM SUI 2019.
- **Mobile AR Game:** Evaluated methods of interaction for an AR game with behavioral animation of virtual characters using mobile devices (iOS and Android).
- **Remote Presentation:** Designed an application to remotely present keynote slides from inside a virtual environment, which was used live at PUCRS Health Tech.

Skills

User Studies, Prototyping, AR, VR, HCI, C#, Unity 3D, C, C++, OpenGL, OpenCV, Matlab, Python, .Net, Git, HTML, CSS ,Javascript, Jave EE, Jakarta, MySQL, AWS, Azure

Selected Publications

1. **Pavanatto, L.**, C. North, D. Bowman, C. Badea, and R. Stoakley. Do we still need physical monitors? An evaluation of the usability of AR virtual monitors for productivity work. In IEEE Virtual Reality and 3D User Interfaces (VR), 2021, 8 pages. *DOI: 10.1109/VR50410.2021.00103*

2. **Pavanatto, L.**, Bowman,D., and Pinho, M. Evaluating the Impact of Point Marking Precision on Situated Modeling Performance. In Proceedings of ACM Symposium on Spatial User Interaction (SUI), 2019, 5 pages. *DOI: 10.1145/3357251.3357586*

3. **Pavanatto, L.**, Musse, S., Pinho, M. and Boussu, J. Evaluation of Selection Techniques on a Mobile Augmented Reality Game. In 17th Brazilian Symposium on Computer Games and Digital Entertainment (SBGames), 2018, 10 pages. *DOI: 10.1109/SBGAMES.2018.00024*

4. **Pavanatto, L.**, Oliveira, T., Sangalli, V., Pinho, M. and Kopper, R. Collaborative hybrid virtual environment. In IEEE Symposium on 3D User Interfaces (3DUI), 2016, 2 pages. *DOI: 10.1109/3DUI.2016.7460081*