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Short Bio

Researcher in the field of Immersive Analytics since 2017, investigating how to best design 3D user interfaces for efficient data exploration leveraging novel AR/VR and Spatial Computing technologies. Jorge holds a PhD in Computer Science from the Federal University of Rio Grande do Sul (UFRGS), Brazil, advised by Prof. Luciana Nedel and Prof. Wolfgang Stuerzlinger.

Recently, Jorge was a Research Intern at Apple's Vision Products Group (April-October 2024) and a 2021-2022 Microsoft Research PhD Fellow. He was also a Fulbright Visiting Student Researcher at New York University, working under the supervision of Prof. Claudio Silva (2021-2022). Before that, he completed a six-month research internship with Prof. Stuerzlinger at Simon Fraser University, Canada, as part of the Emerging Leaders in the Americas program (2019).

Jorge also holds an MSc in Computer Science (2017-2018) and a BSc in Computer Science (2011-2016) degrees with honors from UFRGS, having received the Brazilian Computer Society (SBC) Outstanding Student award for academic excellence. During the undergraduate program, he also attended Queen Mary University of London as an exchange student for a year (2014).

Education

PhD Computer Science, March 2018-November 2024

Federal University of Rio Grande do Sul, Porto Alegre, Brazil

Thesis: *"Designing and Evaluating Immersive Analytics Environments for Spatio-Temporal Data"*

Advisors: Prof. Dr. Luciana Nedel and Prof. Dr. Wolfgang Stuerzlinger

- Awarded a Microsoft Research PhD Fellowship for the 2021-2022 year
- Selected as a Young Researcher attendee at the 8th and 9th editions of the prestigious Heidelberg Laureate Forum
- Six-month research internship with Prof. Dr. Wolfgang Stuerzlinger at the School of Interactive Arts and Technology, Simon Fraser University (Vancouver, Canada), as part of Global Affairs Canada's Emerging Leaders in the Americas program (2019)
- Nine-month research internship with Prof. Dr. Claudio Silva at the Tandon School of Engineering, New York University (USA), supported by the U.S. Department of State's Fulbright Program (2021-2022)
- Six-month industry research internship at Apple under the supervision of Marco Cavallo in the Vision Products Group in California (2024)

- Successfully defended PhD Thesis on November 19, 2024 — Thesis committee formed by Prof. Bruce H. Thomas (UniSA), Prof. Bernhard Jenny (Monash), and Prof. Carla Freitas (UFRGS)

MSc Computer Science, March 2017-March 2018**Federal University of Rio Grande do Sul, Porto Alegre, Brazil**

Dissertation: *“Evaluating Immersive Approaches to Multidimensional Information Visualization”*

Advisors: Prof. Dr. Luciana Nedel and Prof. Dr. Carla Freitas

- Awarded the UFRGS Computer Science Graduate Program Vote of Praise, a *summa cum laude* honor (2018)
- Finalist in the Brazilian Computer Society Theses and Dissertations Award (2019)

BSc Computer Science, January 2011-August 2016**Federal University of Rio Grande do Sul, Porto Alegre, Brazil**

Final Project: *“Automatic collection of Web corpora classified by readability level for Brazilian Portuguese”*

Advisor: Prof. Dr. Aline Villavicencio

- Awarded the University Academic Laurel, a *summa cum laude* honor (2016)
- Awarded the Outstanding Student Award from the Brazilian Computer Society (2016)
- Worked as an undergraduate research assistant from February 2013 to August 2016 under the supervision of Prof. Dr. Aline Villavicencio, in the projects "Using Natural Language Processing for Vocabulary Learning and Recognition", "Creation of Natural Language Processing Tools and Computational Resources for Computational-Cognitive Studies" and "Text Simplification of Complex Expressions"

Queen Mary University of London, United Kingdom

Exchange Student from September 2014 to September 2015

- Research Student from June 2015 to September 2015 in the project “An Incremental Natural Language Generation Agent” under the supervision of Prof. Dr. Matthew Purger

Industry Experience**PhD Intern, April 2024-October 2024****Apple Inc., Sunnyvale, USA**

- Six-month research internship at Apple's Vision Products Group in California, under the supervision of Marco Cavallo.

Languages

Portuguese — Native language

English — Fluent (CEFR C2)

French — Beginner (CEFR A1)

Academic Service

Peer Reviewing

IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR) — 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025

IEEE Conference on Visualization (IEEE VIS) — 2019, 2020, 2021, 2022, 2023, 2024

IEEE Transactions on Visualization and Computer Graphics (IEEE TVCG) — 2022, 2024

ACM Conference on Human Factors in Computing Systems (CHI) — 2021, 2022, 2023, 2024, 2025

IEEE International Symposium on Mixed and Augmented Reality (ISMAR) — 2020, 2021, 2022*, 2023, 2024

IEEE Pacific Visualization Symposium (IEEE PacificVis) — 2020

ACM Symposium on Virtual Reality Software and Technology (VRST) — 2020, 2024

SBC Symposium on Virtual and Augmented Reality (SVR) — 2020

ACM Symposium on User interface Software and Technology (UIST) — 2021

Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) — 2021

Cartography and Geographic Information Science (CaGIS) — 2021

EG Conference on Visualization (EuroVis) — 2022, 2024

Scientific Reports — 2022

NordiCHI — 2022

ACM Spatial User Interaction (SUI) — 2022

Springer Virtual Reality (VIRE) — 2023

** Special Recognitions for Outstanding Reviews*

Event Organization

Publications Co-chair at the SBC Symposium on Virtual and Augmented Reality (SVR) — 2021

Events

Full Paper Oral Presentations in Major International Conferences

EG/VGTC Conference on Visualization (EuroVis) — 2018

IEEE Conference on Visualization (IEEE VIS) — 2019, 2019

IEEE Conference on Virtual Reality and 3DUI (IEEE VR) — 2021, 2022, 2024

Participation in Summer/Winter Schools & International Forums

Heidelberg Laureate Forum (HLF) in September 2021 (8th edition, virtual) and September 2022 (9th edition, in-person) — Invited twice to attend as part of groups of 200 Young Researchers selected from several hundreds of international applicants. The HLF is the prestigious Computer Science and Mathematics counterpart to the traditional Lindau Nobel Laureate Meetings.

Innovation and Science Diplomacy School on Global Circulation of Research Data (InnSciD SP) at the University of São Paulo in August 2023

São Paulo School of Advanced Science on Learning from Data at the University of São Paulo (USP) in August 2019

Grants and Scholarships

Microsoft Research PhD Fellowship provided to 45 distinguished Ph.D. students to help complete research as part of their doctoral thesis works for the academic year 2021–22. Opportunities will be provided to build relationships with research teams at Microsoft and receive mentorship.

Fulbright Foreign Student Program Scholarship from the U.S. Department of State to attend New York University (USA) for nine months (September 2021-May 2022) as a visiting PhD researcher in Prof. Dr. Claudio Silva's lab

Emerging Leaders in the Americas Program Scholarship from Global Affairs Canada to attend Simon Fraser University (Canada) for six months (January-June 2019) as a visiting PhD student in Prof. Dr. Wolfgang Stuerzlinger's lab

Science Without Borders Scholarship from the Brazilian National Council for Scientific and Technological Development (CNPq) to attend Queen Mary University of London (UK) for a year (September 2014-September 2015) as an exchange undergraduate student

Ph.D. Scholarship from the Brazilian National Council for Scientific and Technological Development (CNPq) and the Brazilian Coordination for the Improvement of Higher Education Personnel (CAPES) (2018-2022)

M.Sc. Scholarship from the Brazilian National Council for Scientific and Technological Development (CNPq) (2017-2018)

Abbe Grant from the Carl Zeiss Foundation (Carl-Zeiss-Stiftung) to attend the 9th Heidelberg Laureate Forum in Heidelberg, Germany in September 2022

Summer School Scholarship from the São Paulo Research Foundation (FAPESP) to attend the *São Paulo School of Advanced Science on Learning from Data* at the University of São Paulo in August 2019

Summer School Scholarship from the São Paulo Research Foundation (FAPESP) to attend the *Innovation and Science Diplomacy School on Global Circulation of Research Data (InnSciD SP)* at the University of São Paulo in August 2023

Undergraduate Research Scholarship from January 2016 to August 2016 sponsored by Samsung Brazil to work in Prof. Dr. Aline Villavicencio's lab

Undergraduate Research Scholarship from the Rio Grande do Sul Research Foundation (FAPERGS) from February 2013 to August 2014 to work in Prof. Dr. Aline Villavicencio's lab

Teaching Experience

Teaching Assistant

UFRGS INF01043 Human-Computer Interaction — 2017/1

UFRGS INF01019 Computer Graphics Project — 2020/2

UFRGS INF01019 Computer Graphics Project: Immersive Analytics — 2022/2, 2023/2

Publications

Google Scholar citation count as of November 2024: 567 (h-index 8)

Jorge Wagner, Claudio T. Silva, Wolfgang Stuerzlinger, Luciana Nedel (2024). **Reimagining TaxiVis through an Immersive Space-Time Cube metaphor and reflecting on potential benefits of Immersive Analytics for urban data exploration.** Proceedings of the IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR). <https://doi.org/10.1109/VR58804.2024.00102>

Mariane Giambastiani, Jorge Wagner, Carla M Freitas, Luciana Nedel (2024). **An Evaluation of Immersive Infographics for News Reporting: Quantifying the Effect of Mobile AR Concrete Scales Infographics on Volume Understanding.** arXiv preprint <https://arxiv.org/abs/2407.07367>

Jorge Wagner, Wolfgang Stuerzlinger, Luciana Nedel (2022). **The Effect of Exploration Mode and Frame of Reference in Immersive Analytics.** IEEE Transactions in Visualization and Computer Graphics 28(9). — Presented at the 2022 IEEE Conference on Virtual Reality and 3D User Interfaces. <https://doi.org/10.1109/TVCG.2021.3060666>

Jorge Wagner, Wolfgang Stuerzlinger, Luciana Nedel (2021). **Comparing and Combining Virtual Hand and Virtual Ray Pointer Interactions for Data Manipulation in Immersive Analytics**. IEEE Transactions in Visualization and Computer Graphics 27(5) — Presented at the 2021 IEEE Conference on Virtual Reality and 3D User Interfaces. <https://doi.org/10.1109/TVCG.2021.3067759>

Jorge A. Wagner Filho, Wolfgang Stuerzlinger, Luciana Nedel (2019). **Evaluating an Immersive Space-Time Cube Geovisualization for Intuitive Trajectory Data Exploration**. IEEE Transactions in Visualization and Computer Graphics 26(1) — Presented at the 2019 IEEE Visualization Conference. <https://doi.org/10.1109/TVCG.2019.2934415>

Jorge A. Wagner Filho, Carla M.D.S. Freitas, Luciana Nedel (2019). **Comfortable Immersive Analytics With the VirtualDesk Metaphor**. IEEE Computer Graphics and Applications 39(3) — Presented at the 2019 IEEE Visualization Conference. <https://doi.org/10.1109/MCG.2019.2898856>

Jorge A. Wagner Filho, Carla M.D.S. Freitas, Luciana Nedel (2018). **VirtualDesk: A Comfortable and Efficient Immersive Information Visualization Approach**. Computer Graphics Forum 37(3) — Presented at EG/VGTC EuroVis 2018. <https://doi.org/10.1111/cgf.13430>

Jorge A. Wagner Filho, Rodrigo Wilkens, Marco Idiart, Aline Villavicencio (2018). **The brWaC Corpus: A New Open Resource for Brazilian Portuguese**. International Conference on Language Resources and Evaluation (LREC). <http://inf.ufrgs.br/pln/brwac>

Jorge A. Wagner Filho, Marina F. Rey, Carla M.D.S. Freitas, Luciana Nedel (2018). **Immersive Visualization of Abstract Information: An Evaluation on Dimensionally-Reduced Data Scatterplots**. IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR). <https://doi.org/10.1109/VR.2018.8447558>

Jorge A. Wagner Filho, Marina F. Rey, Carla M.D.S. Freitas, Luciana Nedel (2017). **Immersive Analytics of Dimensionally-Reduced Data Scatterplots**. IEEE VIS 2017 Workshop on Immersive Analytics: Exploring Future Interaction and Visualization Technologies for Data Analytics.

Jorge Alberto Wagner Filho, Rodrigo Wilkens, Aline Villavicencio (2016). **Automatic Construction of Large Readability Corpora**. COLING Workshop on Computational Linguistics for Linguistic Complexity (CL4LC).

Jorge Alberto Wagner Filho, Rodrigo Wilkens, Leonardo Zilio, Marco Idiart, Aline Villavicencio (2016). **Crawling by Readability Level**. International Conference on the Computational Processing of Portuguese (PROPOR). https://doi.org/10.1007/978-3-319-41552-9_31