

Carolina Coimbra Vieira

Konrad-Zuse-Str., 1 – 18057 Rostock, Germany

📞 (+49) 176 4347 6649 • ✉ coimbravieira@demogr.mpg.de
🌐 <https://carolcoimbra.github.io/>

EDUCATION

- **Max Planck Institute and Saarland University** **MPI & UdS**
Ph.D. Computer Science *2020–present*
Research topic: Measuring migration, culture, inequality, and algorithmically-mediated user engagement: evidence from digital trace data
- **Federal University of Minas Gerais** **UFMG**
M.Sc. Computer Science – GPA: 96/100 *2018–2020*
Thesis topic: A computational methodology to measure the cultural identity of countries.
- **Federal University of Minas Gerais** **UFMG**
B.Sc. Information Systems – GPA: 4.9/5.0 *2014–2017*
Thesis topic: Generating heterogeneous music playlists.

EXPERIENCE

- **Ph.D. student** **2020–present**
Laboratory of Digital and Computational Demography, MPIDR
Research on population dynamics in association with interests expressed in digital data.
- **Seminar Chair** **2024–2025**
Seminar Chair in the Department of Digital and Computational Demography
Max Planck Institute for Demographic Research.
- **Organizer** **2025–2025**
Symposium Measuring Migration in Latin America 2025
Symposium Measuring Migration in Latin America: Leveraging digital traces, registers, censuses, and surveys
- **Lecturer and Workshop Organizer** **2024–2024**
Congreso de la Asociación Latinoamericana de Población 2024 (ALAP)
Course on "Opportunities and limits of working with digital data for the study of international migration"
- **Lecturer** **2024–2024**
Escola Nacional de Ciências Estatísticas IBGE
Big Data and Public Statistics Course: "Exploring Migration Patterns Using Digital Trace Data"
- **Lecturer** **2024–2024**
University of Rostock and Max Planck Institute for Demographic Research
Migration and Society Course: "Culture and Migration"
- **Lecturer and Workshop Organizer** **2024–2024**
African Population Conference 2024
Workshop on "Exploring Migration Patterns using Digital Trace Data"

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- Lecturer**

 - *Summer Academy Neubuern (Studienstiftung des deutschen Volkes)*
"How Social Media are Shaping our World - Individual and Societal Consequences of Social Media Use"

2023–2023
- Lecturer**

 - *Spring Academy Roggenburg (Studienstiftung des deutschen Volkes)*
"Diversity from multiple perspectives - How we (can) observe cultural diversity in the context of migration"

2023–2023
- Teaching Assistant (Deep Learning)**

 - *Computer Science Department, Federal University of Minas Gerais*

2021–2021
- Teaching Assistant (Machine Learning)**

 - *Computer Science Department, Federal University of Minas Gerais*

2020–2020
- Researcher**

 - *WISEMAP Laboratory, Federal University of Minas Gerais*
Research on topic modeling and LDA applied to song lyrics.
Research on complex networks applied to *fake news* dissemination on *WhatsApp*.

2018–2020
- Visiting researcher**

 - *Laboratory of Digital and Computational Demography, MPIDR*
Research about cultural aspects using social media data. This work includes the creation of a new methodology to evaluate the distance between countries in terms of cultural aspects collected from Facebook Ads.

2019–2019
- Teaching Assistant (Deep Learning)**

 - *Computer Science Department, Federal University of Minas Gerais*

2019–2019
- Tutor (Data Science)**

 - *Computer Science Department, Federal University of Minas Gerais*

2019–2019
- Research Assistant**

 - *WISEMAP Laboratory, Federal University of Minas Gerais*
Research about generating heterogeneous music playlists, including the creation of a new algorithm, STRAW (Steered Random Walker), that create playlists based on the similarity of songs represented by a graph.

2016–2017
- Research Assistant**

 - *ICEX, Federal University of Minas Gerais*
Research project with the Minister of Science and Technology (1992-1999). This project focused on modeling and predicting Brazilian social phenomena such as illiteracy rates and homicide rates.

2015–2016

AWARDS

- RESPECT fellowship**

 - *Georgia Institute of Technology*

2023
- Young Demographers Best Presentation Award**

 - *Charles University*

2022
- IDDP fellowship Grant \$12,000**

 - *Institute for Data, Democracy & Politics (IDDP) at the George Washington University*

2022
- SICSS Grant \$3,500**

 - *Summer Institute in Computational Social Sciences (SICSS)*

2021
- CSDE Lightning Talks & Poster Session Best Presentation Award**

 - *University of Washington*

2021

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- **1st place in the Best Student Award** 2018
◦ *Federal University of Minas Gerais*
- **Honorable Mention in Data Visualization Project** 2017
◦ *Federal University of Minas Gerais*
- **NAACL Scholarship for the JSALT Summer School** 2017
◦ *Carnegie Mellon University (CMU)*
NAACL Scholarship for the JSALT Summer School on Speech and Language Technology at CMU.

OTHER ACTIVITIES

- **Participated – Data Donation Symposium** 2024
◦ *University of Amsterdam*
- **Participated – Summer Institute in Computational Social Sciences (SICSS)** 2021
◦ *Princeton University (online)*
- **Participated – Course: Population Health** 2020
◦ *Max Planck Institute for Demographic Research*
- **Participated – Course: Topics in Digital and Computational Demography** 2020
◦ *Max Planck Institute for Demographic Research*
- **Participated – Course: Demographic Methods** 2020
◦ *Max Planck Institute for Demographic Research*
- **Participated – Pre-doctoral Research School - online Summer School** 2020
◦ *Max Planck Institute for Software Systems*
- **Participated – Data visualization – the art/skill cocktail - online course** 2020
◦ *Max Planck Institute for Demographic Research*
- **Participated – JSALT Summer School on Speech and Language Technology** 2017
◦ *Carnegie Mellon University*
- **Participated – Summer School in Computer Science** 2015–2017
◦ *Federal University of Minas Gerais*

SKILLS

- Python, R, C;
- LaTeX, Text-Processing Commands (POSIX);
- Data science (Data mining, Data visualization, and Machine Learning);
- Portuguese (native), English (advanced), Spanish (basic).

SELECTED TALKS

- "Exploring ChatGPT as a tool for automated classification of authors' positivity perspectives on Russian topics". Workshop on The Use of Generative AI for Science of Science and Higher Education Studies 2025 (AISci).
- "Using Digital Trace Data for Demographic Research". Congreso de la Asociación Latinoamericana de Población 2024 (ALAP '24)

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- o "Digital demography in migration studies: Applications and challenges for Latin America". Live Webinar ABEP 2024.
- o "Using Wikipedia data to monitor big migration events"
 - 1st Conference on Computational Social Science 2025 (CS2Italy2025)
 - Congreso de la Asociación Latinoamericana de Población 2024 (ALAP '24)
 - International Migration in Central and Eastern Europe 2024
 - International Conference on Computational Social Science 2024 (IC2S2 '24)
 - European Population Conference 2024 (EPC '24)
 - African Population Conference 2024 (APC '24)
 - Annual Meeting - Population Association of America 2024 (PAA '24)
- o "The value of cultural similarity for predicting migration: evidence from food and drink interests in digital trace data".
 - Seminario sobre Gestión y Generación de Datos Sociodemográficos 2023
 - Symposium Measuring Migration in Latin America 2025
- o "The value of cultural similarity for predicting migration: evidence from food and drink preferences in Facebook data"
 - XX ISA World Congress of Sociology 2023 (ISA '23)
 - Giornate di Studio sulla Popolazione (PopDays 2023)
 - Alpine Population Conference (ALP-POP 2023)
- o "Edits on Wikipedia in response to big migration events"
 - Annual Conference of the British Society for Population Studies 2023 (BSPS '23)
 - International Conference on Computational Social Science 2023 (IC2S2 '23)
 - Annual Meeting - Population Association of America 2023 (PAA '23)
- o "Contrasting global gender gaps in STEM using Facebook data and offline indicators"
 - International Conference on Computational Social Science 2023 (IC2S2 '23)
 - XX ISA World Congress of Sociology 2023 (ISA '23)
 - Annual Meeting - Population Association of America 2023 (PAA '23)
 - Annual International Conference of Young Demographers 2023
 - Giornate di Studio sulla Popolazione (PopDays 2023)
- o "Evaluating digital polarization in multi-party systems: evidence from the German Bundestag". International Conference on Computational Social Science 2022 (IC2S2 '22).
- o "Desaparecidos: characterizing the population of missing children using Twitter". The Web Science Conference 2022 (WebSci '22).
- o "The value of culture for predicting migration: evidence from Facebook data".
 - National Meeting of Population Studies 2022
 - Workshop on Migration and mobility research in the digital era (MIMODE) at Conference on Complex Systems (CCS '22)
 - Portuguese Conference of Demography 2022 (APD '22)

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- Annual Conference of the British Society for Population Studies 2022 (BSPS '22)
- International Conference on Migration and Mobilities 2022 (iMigMob '22)
- International Conference on Computational Social Science 2022 (IC2S2 '22)
- o "Cultural similarities predict migration over and above shared location, shared language, and shared history".
 - European Population Conference 2022 (EPC '22)
 - Annual Meeting - Population Association of America 2022 (PAA '22)
 - Annual International Conference of Young Demographers 2022
- o "The Role of Migration in Shaping Cultural Proximity across Countries: Evidence from Facebook Data on National Cuisines".
 - New data for the new challenges of population and society 2021
 - International Conference on Computational Social Science 2021 (IC2S2 '21)
 - Annual Meeting - Population Association of America 2021 (PAA '21)
- o "The interplay of migration and cultural similarity between countries: evidence from Facebook data on food and drink interests". XXIX International Population Conference (IPC '21).
- o "Using Facebook Ads Data to Assess Gender Balance in STEM: Evidence from Brazil". Workshop Data Science for Social Good - The Web Conference 2021 (WWW '21).
- o "Assessing Cultural Distance between Countries using Facebook Data: The Case of Food as a Cultural Marker and the Role of Migration". CSDE Winter 2021 Lightning Talk & Poster Session 2021.
- o "Using Facebook Data to Measure Cultural Distance between Countries: the Case of Brazilian Cuisine". The Web Conference 2020 (WWW '20).
- o "Using Facebook Data to Expand Multidimensional Measures of Distance between Countries". Annual Meeting - Population Association of America 2020 (PAA '20).

SELECTED PUBLICATIONS

- o Zhao, Y.; Paul, R.; Reid, S.; **Vieira, Carolina C.**; Wolfe, C.; Zhang, Y.; Chunara, R. "Constructing Social Vulnerability Indexes with Increased Data and Machine Learning Highlight the Importance of Wealth Across Global Contexts." Social Indicators Research (2024).
- o **Vieira, Carolina C.**; Lohmann, Sophie; Zagheni, Emilio. "The Value of Cultural Similarity for Predicting Migration: Evidence from Food and Drink Interests in Digital Trace Data." Population and Development Review (2024).
- o **Vieira, Carolina C.**; Fatehkia, M.; Garimella, K.; Weber, I.; Zagheni, E.. "Using Facebook and LinkedIn data to study international mobility". In: Salah, A. A.; Eren Korkmaz, E.; Bircan, T. (Eds.): Data science for migration and mobility. Oxford: Oxford University Press (2022).

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- o **Vieira, Carolina C.**; Alburez-Gutierrez, Diego; Nepomuceno, Marília R.; Theile, Tom. "Desaparecidos: characterizing the population of missing children using Twitter." In Proceedings of the 14th ACM Web Science Conference 2022 (WebSci '22).
- o Chin, Amber; **Vieira, Carolina C.**; Kim, Jisu. "Evaluating Digital Polarization in Multi-Party Systems: Evidence from the German Bundestag." In Proceedings of the 14th ACM Web Science Conference 2022 (WebSci '22).
- o **Vieira, Carolina C.**; Lohmann, Sophie; Zagheni, Emilio; de Melo, Pedro O. V.; Benevenuto, Fabrício; Ribeiro, Filipe N. "The interplay of migration and cultural similarity between countries: Evidence from Facebook data on food and drink interests." PLoS ONE 17(2): e0262947. (2022).
- o **Vieira, Carolina C.**; Vasconcelos, Marisa. "Using Facebook Ads Data to Assess Gender Balance in STEM: Evidence from Brazil." In Companion Proceedings of The Web Conference 2021 (WWW '21).
- o **Vieira, Carolina C.**; Ribeiro, Filipe N.; de Melo, Pedro O. V.; Benevenuto, Fabrício; Zagheni, Emilio. "Using Facebook Data to Measure Cultural Distance between Countries: the Case of Brazilian Cuisine." In Proceedings of The Web Conference 2020 (WWW '20).
- o de Almeida, Marcos A.; **Vieira, Carolina C.**; de Melo, Pedro O. V.; Assunção, Renato M. "Random Playlists Smoothly Commuting Between Styles." ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM) 15, no. 4 (2019): 1-20. 2019.
- o Melo, Philipe de Freitas; **Vieira, Carolina C.**; Garimella, Kiran; de Melo, Pedro O. V.; Benevenuto, Fabrício. "Can WhatsApp Counter Misinformation by Limiting Message Forwarding?". In International Conference on Complex Networks and Their Applications, 372-384. 2019.
- o **Vieira, Carolina C.**; Loures, Túlio C.; de Melo, Pedro O. V.; Assunção, Renato M. "The Times They Are A-Changin' (or not): song lyrics analysis over the years". Proceedings of the 25th Brazilian Symposium on Multimedia and the Web, 237-244. 2019.
- o **Vieira, Carolina C.**; Melo, Philipe de Freitas; de Melo, Pedro O. V.; Benevenuto, Fabrício. "Viralização de Informação em Redes de Grupos como o *Whatsapp*". Proceedings of the 37th Brazilian Symposium on Computer Networks and Distributed Systems. 2019.
- o de Almeida, Marcos A.; **Vieira, Carolina C.**; de Melo, Pedro O. V.; Assunção, Renato M. "The Fast and Winding Roads that Lead to The Doors: Generating Heterogeneous Music Playlists". Proceedings of the 23rd Brazilian Symposium on Multimedia and the Web, 269-276. 2017.
- o de Almeida, Marcos A.; **Vieira, Carolina C.**; de Melo, Pedro O. V.; Assunção, Renato M. "ROPE and STRAW: Automatic Music Playlist Generators". Anais Estendidos do XXIII Simpósio Brasileiro de Sistemas Multimídia e Web. 2017.

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WORKING PAPERS

- o **Vieira, Carolina C.**; Sanliturk, Ebru; Zagheni, Emilio. "Wikipedia as a Tool for Tracking Mass Migration Flows: Insights from the Russian Invasion of Ukraine" (2025).
- o **Vieira, Carolina C.**; Mousavi, S.; Dash, A.; Ayalon, O.; Gummadi, K. P.; Zannettou, S. "On the (Un)Predictability of User Watching Behavior with Short Format Videos on TikTok" (2025).