

# Lucas da Cunha Godoy

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## Education

Universidade Federal do Rio Grande do Sul	PORTO ALEGRE, BRAZIL
<b>Bachelor degree in Statistics</b>	2011–2016
Introduction to geostatistical modeling for counting data: Parameters estimation with different MCMC algorithms	
Universidade Federal de Minas Gerais	BELO HORIZONTE, BRAZIL
<b>Master in Statistics</b>	2017–2019
Testing Spatial Association Between Two Types Polygons ADVISOR: Renato Assunção	
University of Connecticut	STORRS, CT
<b>M.Sc. in Statistics</b>	2019–2022
<b>Ph.D. in Statistics (GPA: 3.640)</b>	2019–2024
Hausdorff–Gaussian Process with Spatial and Spatiotemporal Applications ADVISOR: Jun Yan	

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## Awards

ENVR American Statistical Association–Student Paper Competition	PORTLAND, OR
<b>Honorable mention.</b>	2024
The EnviBayes workshop on complex environmental data, CSU	FORT COLLINS, CO
<b>Travel Award.</b>	2023
Graduate School – University of Connecticut	STORRS, CT
<b>Summer Doctoral Dissertation Fellowship.</b>	2023
Department of Statistics – University of Connecticut	STORRS, CT
<b>Teaching Award.</b>	2021–2022
The 2022 ISBA World Meeting	MONTREAL, CA
<b>Travel Award.</b>	Jun '22
The Graduate School – University of Connecticut	STORRS, CT
<b>Conference Participation Award.</b>	Jun '22
1 <sup>st</sup> Shiny Contest - RStudio	UNITED STATES
<b>Honorable Mention</b>	Apr '19
Voronoy's-Understanding voters' profile in Brazilian elections.	
1 <sup>st</sup> Conference on Statistics and Data Science	BRAZIL
<b>Best Paper Award on Statistics and Data Science</b>	Nov '18
Voronoy Data Linkage: Extracting Data from Polygons to Points.	
Center for Politics and Economics in the Public Sector Studies (CEPESP)–FGV	BRAZIL
<b>1<sup>st</sup> CEPESP Data Challenge: Deciphering Brazil Elections</b>	Dec '17
The challenge is to find solutions for visualization, search engines, graphic arts and any other tools that facilitate the understanding of the electoral process in Brazil. Always with free and open source software.	

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## Professional Experience

EEB-University of California Santa Cruz	SANTA CRUZ, CA
<b>Postdoctoral Researcher.</b>	Jun '24–present
Analyses of range shifts in species distributions.	

## Statistical Consulting Services-University of Connecticut

### Graduate assistant.

Walk-in statistical consulting.

STORRS, CT

Aug '23–May '24

## High Performance Computing-University of Connecticut

### Graduate assistant.

System administration, development and maintenance of apptainer containers to assure reproducibility and compatibility between newer operating systems and old software. Support to the users of the cluster.

STORRS, CT

Aug '22–May '23

## Department of Statistics-University of Connecticut

### Statistics Cluster Admin.

Management of the R packages and system requirements on the Cluster. Development and maintenance of singularity containers to assure analyses reproducibility.

STORRS, CT

Jun '21 – present

## Biostatistics Center–University of Connecticut Health Center

### Graduate Assistant

Statistical consulting for UConn Health Center researchers.

FARMINGTON, CT

Sep '20–Dec '23

## Agibank

### Data Scientist

Development of predictive models for debt collection and dashboards for monitoring their performance.

PORTO ALEGRE, BRAZIL

Dez '18–Jun '19

## Grupo Conectt

### Digital Intelligence Analyst

Development of monthly interactive reports based on web data. Predictive modeling of leads more likely to become clients.

PORTO ALEGRE, BRAZIL

Sep '16–Mar '17

## Universidade Federal do Rio Grande do Sul

### Undergraduate Research Assistant (AMBES project-Petrobras)

Geostatistical modeling to predict and understand the impact of oil platforms' physical chemical characteristics of the ocean. Supervisor: Fernando Pulgati.

PORTO ALEGRE, BRAZIL

Apr '15–Dec '15

### Undergraduate Research Assistant

Investigating social inequalities and their impact on public health in Brazil under. Supervisor: Professor Sergio Luiz Bassanesi.

May '11–Dec '14

## Instituto Brasileiro de Geografia e Estatística

### Supervisor Agent-Census

Organization, supervision, and monitoring of data collection during the 2010 Census in Brazil.

Mar '10–Nov '10

## Teaching Experience

### University of Connecticut

#### Principal Instructor

STAT 3445–Introduction to Mathematical Statistics II.

STORRS, CT

Spring 2021–Spring 2022

#### Teaching Assistant

STAT 3445–Introduction to Mathematical Statistics II.

Fall 2019–Fall 2020

#### Grader

STAT 2215Q–Introduction to Statistics II.

Fall 2019

#### Teaching Assistant

STAT 1000Q–Introduction to Statistics I.

Spring 2020

### Uniritter

#### Lecturer

Data analysis using R.

PORTO ALEGRE, BRAZIL

Spring 2019

## Peer-Reviewed Articles–Methodology

Michelin, L., Godoy, L. d. C., Ramos, H. S., & Prates, M. O. (2025). Fast mixture spatial regression: A mixture in the geographical and feature space applied to predict porosity in the post-salt. *Spatial Statistics*, 65, 100873. <https://doi.org/10.1016/j.spasta.2024.100873>

Godoy, L. d. C., Assunção, R. M., & Butler, K. A. (2022). Testing the spatial association of different types of polygons. *Spatial Statistics*, 51, 100695. <https://doi.org/10.1016/j.spasta.2022.100695>

Prates, M. O., Azevedo, D. R. M., Godoy, L. d. C., & Bandyopadhyay, D. (2021). Can gaussian markov random fields handle spatial confounding? *Journal of the Indian Statistical Association*, 59(2), 197–220.

## Peer-Reviewed Articles–Applications

- Abu-Arquib, S., Hariharan, A., Banankhah, S., **Godoy, L. d. C.**, Liu, P., Kuo, C., & Uribe, F. (0a). Accuracy of full arch scans using the itero element 2® intra-oral scanner: A clinical study [PMID: 39135489]. *Journal of Orthodontics*, 0(0), 0–0. <https://doi.org/10.1177/14653125241268755>
- Frank, S., Ibrahim, B., Feng, R., Bidra, A., Lafreniere, D., Kuo, C., **Godoy, L. d. C.**, & Falcone, T. E. (n.d.). Tolerability of nasal and oral povidone-iodine antiseptics for in-office procedures. *Clinical Otolaryngology*, 48(4), 696–699. <https://doi.org/10.1111/coa.14045>
- Abu-Arquib, S., Al-Moghrabi, D., Kuo, C., **Godoy, L. d. C.**, & Uribe, F. (2024). Perceptions and utilization of tele-orthodontics: A survey of the members of the american association of orthodontists. *Progress in Orthodontics*, 25(1), 16. <https://doi.org/10.1186/s40510-024-00516-4>
- Abu-Arquib, S., Greene, R., Greene, S., Laing, K., Kuo, C., **Godoy, L. d. C.**, & Uribe, F. (2024). Retrospective evaluation of the success rate and factors associated with the stability of alveolar ridge orthodontic miniscrews: Pilot study. *Journal of the World Federation of Orthodontists*, 13(4), 181–188. <https://doi.org/10.1016/j.ejwf.2024.02.001>
- Andreyeva, T., Moore, T. E., **Godoy, L. d. C.**, & Kenney, E. L. (2024). Federal nutrition assistance for young children: Underutilized and unequally accessed. *American Journal of Preventive Medicine*, 66(1), 18–26. <https://doi.org/10.1016/j.amepre.2023.09.008>
- Fryc, G. A., **Godoy, L. d. C.**, Kuo, C., & Lurie, A. G. (2024). Prevalence of likely retro-odontoid pseudotumor in patients receiving dental cbct examinations. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*, 137(3), 301–309. <https://doi.org/10.1016/j.oooo.2023.11.005>
- Irsheid, R., **Godoy, L. D. C.**, Kuo, C., Metz, J., Dolce, C., & Abu-Arquib, S. (2024). Comparative assessment of the clinical outcomes of clear aligners compared to fixed appliance in class ii malocclusion. *Clinical Oral Investigations*, 28(8), 1–10. <https://doi.org/10.1186/s12903-018-0695-z>
- Abu-Arquib, S., Ahmida, A., **Godoy, L. d. C.**, Kuo, C., Upadhyay, M., & Yadav, S. (2023). Insight into clear aligner therapy protocols and preferences among members of the american association of orthodontists in the united states and canada. *The Angle Orthodontist*, 93(4), 417–428. <https://doi.org/10.2319/101022-694.1>
- Abu-Arquib, S., Bashir, R., Obeng, K., **Godoy, L. d. C.**, Kuo, C., Upadhyay, M., & Yadav, S. (2023). Survival and failure rate of lower lingual bonded retainers: A retrospective cohort evaluation. *Orthodontics & Craniofacial Research*, 26(2), 256–264. <https://doi.org/10.1111/ocr.12608>
- Abu-Arquib, S., Greene, R., Greene, S., Laing, K., Kuo, C., **Godoy, L. d. C.**, & Uribe, F. (2023). Ridge mini-implants, a versatile biomechanical anchorage device whose success is significantly enhanced by splinting: A clinical report. *Progress in Orthodontics*, 24(1), 27. <https://doi.org/10.1186/s40510-023-00480-5>
- de Jesus, M., Maheshwary, A., Kumar, M., **Godoy, L. d. C.**, Kuo, C., & Grover, P. (2023). Association of electrocardiographic and echocardiographic variables with neurological outcomes after ischemic stroke. *American Heart Journal Plus: Cardiology Research and Practice*, 34, 100313. <https://doi.org/10.1016/j.ahjo.2023.100313>
- Duong, C., Zhu, Q., Aseltine Jr, R. H., Kuo, C., **Godoy, L. d. C.**, & Kaufman, B. (2023). A survey on cone-beam computed tomography usage among endodontists in the united states. *Journal of Endodontics*, 49(11), 1559–1564. <https://doi.org/10.1016/j.joen.2023.08.020>
- Harandi, M. T., Abu-Arquib, S., Warren, E., Kuo, C., **Godoy, L. d. C.**, Mehta, S., Feldman, J., Upadhyay, M., & Yadav, S. (2023). Assessment of clear aligner accuracy of 2 clear aligners systems. *American Journal of Orthodontics and Dentofacial Orthopedics*, 164(6), 793–804. <https://doi.org/10.1016/j.ajodo.2023.05.028>
- Kuo, C., Liu, R., **Godoy, L. d. C.**, Pilling, L. C., Fortinsky, R. H., & Brugge, D. (2023). Association between residential exposure to air pollution and incident coronary heart disease is not mediated by leukocyte telomere length: A uk biobank study. *Toxics*, 11(6). <https://doi.org/10.3390/toxics11060489>
- Leonard, J. F., Taxel, P., Kuo, C., **Godoy, L. d. C.**, & Freilich, M. (2023). Dental implant and bone augmentation treatment in bone-compromised patients: Oral health-related quality of life outcomes. *The Journal of Prosthetic Dentistry*. <https://doi.org/10.1016/j.prosdent.2023.01.011>
- Turshudzhyan, A., **Godoy, L. d. C.**, Kuo, C., & Wu, G. Y. (2023). Alpha feto-protein expression trends for screening early hepatocellular carcinoma. *Gene Expression*, 22(2), 109–114. <https://doi.org/10.14218/GE.2023.00001>
- Abu-Arquib, S., Banankhah, S., Sharma, R., **Godoy, L. d. C.**, Kuo, C., Ahmed, M., Alfardan, M., & Uribe, F. (2022). Association between initial complexity, frequency of refinements, treatment duration, and outcome in Invisalign orthodontic treatment. *American Journal of Orthodontics and Dentofacial Orthopedics*. <https://doi.org/10.1016/j.ajodo.2022.06.017>
- Hariharan, A., Abu-Arquib, S., Gandhi, V., **Godoy, L. d. C.**, Kuo, C., & Uribe, F. (2022). Evaluation of interproximal reduction in individual teeth, and full arch assessment in clear aligner therapy: Digital planning versus 3d model analysis after reduction. *Progress in Orthodontics*, 23(1), 1–10. <https://doi.org/10.1186/s40510-022-00403-w>

- Kumar, M., Patil, S., **Godoy, L. d. C.**, Kuo, C., Swede, H., Kuchel, G. A., & Chen, K. (2022). Demand ischemia as a predictor of mortality in older patients with delirium. *Frontiers in Cardiovascular Medicine*, 9. <https://doi.org/10.3389/fcvm.2022.917252>
- Arqub-Abu, S., Voldman, R., Ahmida, A., Kuo, C., **Godoy, L. d. C.**, Nasrawi, Y., Al-Khateeb, S. N., & Uribe, F. (2021). Patients' perceptions of orthodontic treatment experiences during COVID-19: A cross-sectional study. *Progress in Orthodontics*, 22(1), 1–12. <https://doi.org/10.1186/s40510-021-00363-7>
- Huynh, C., **Godoy, L. d. C.**, Kuo, C., Smeds, M., & Amankwah, K. S. (2021). Examining the development of operative autonomy in vascular surgery training and when trainees and program directors agree and disagree. *Annals of Vascular Surgery*, 74, 1–10. <https://doi.org/10.1016/j.avsg.2021.01.121>
- Lin, G., Murase, J. E., Murrell, D. F., **Godoy, L. d. C.**, & Grant-Kels, J. M. (2021). The impact of gender in mentor-mentee success: Results from the women's dermatologic society mentorship survey. *International Journal of Women's Dermatology*, 7(4), 398–402. <https://doi.org/10.1016/j.ijwd.2021.04.010>

## Pre-Print Articles and Software

- Godoy, L. d. C.** (2024a). *sapo: Spatial association of different types of polygon* [R package version 0.8.0]. <https://CRAN.R-project.org/package=sapo>
- Godoy, L. d. C.** (2024b). *smile: Spatial misalignment: Interpolation, linkage, and estimation* [R package version 1.0.5]. <https://doi.org/10.32614/CRAN.package.smile>

## Articles under review

- Sieger, M., Goldsborough, E. J., Nichols, C., **Godoy, L. d. C.**, Moore, T. E., Chen, S., Terplan, M., Griffin, B. A., & Patrick, S. W. (2025). Effect of statewide prenatal substance exposure policy on infant maltreatment report rates. *Health Affairs*.
- Godoy, L. d. C.**, Prates, M. O., & Yan, J. (2024a). Statistical inferences and predictions for areal data and spatial data fusion with hausdorff–gaussian processes. *Bayesian Analysis*. <https://doi.org/10.48550/arXiv.2208.07900>
- Godoy, L. d. C.**, Prates, M. O., & Yan, J. (2024b). Voronoi linkage between mismatching voting stations and census tracts in analyzing the 2018 brazilian presidential election data. *New England Journal of Statistics in Data Science*.
- Hernández, G. G., Seemann, J. R., **Godoy, L. d. C.**, Slot, M., & García-Robledo, C. (2024). Heat tolerance of tropical herbaceous plants increases with elevation. *Annals of Botany*.

## Invited Talks

Department of Statistics, Universidade Federal do Rio Grande do Sul  
Statistical Inferences and Predictions for Areal Data and Spatial Data Fusion with Hausdorff-Gaussian Processes  
PORTO ALEGRE, BR  
Nov '24

Department of Statistics, University of California Santa Cruz  
Statistical Inferences and Predictions for Areal Data and Spatial Data Fusion with Hausdorff-Gaussian Processes  
SANTA CRUZ, CA  
Oct '24

Stockholm Resilience Centre, University of Stockholm  
Process-based species distribution models for improving predictive performance of climate-driven range shifts  
STOCKHOLM, SE  
Sep '24  
Joint talk with Dr. Mark Morales.

UConn Sports Analytics Symposium (UCSAS) 2021  
Web Scraping for Sports Data with R  
STORRS, CT  
Oct '21

1<sup>ST</sup> DATATHON - UFRGS  
Web Scraping, Web Services & APIs.  
PORTO ALEGRE, BR  
Nov '18

GRADUATE STUDENTS' SEMINARS - UFMG  
Analyzing Brazilian public data  
BELO HORIZONTE, BR  
Aug '18

## Contributed Talks and Posters

### Joint Statistical Meeting 2024

**From Point to Polygon: A Unified Framework for Modeling Spatial Dependence**  
Talk.

PORTLAND, OR  
*Aug '24*

### The 37<sup>th</sup> New England Statistics Symposium

**Beyond Traditional Disease Mapping: Hausdorff-Gaussian Process for Spatiotemporal Analysis of Tuberculosis Incidence**  
Talk.

STORRS, CT  
*May '24*

### The EnviBayes workshop on complex environmental data, CSU

**Hausdorff-Gaussian process: Unifying spatial data analysis**  
Poster.

FORT COLLINS, CO  
*Sep '23*

### The 2022 ISBA World Meeting

**An unified framework for point-level, areal, and mixed spatial data: The Hausdorff-Gaussian Process**  
Talk.

MONTREAL, CA  
*Jun '22*

### The 35<sup>th</sup> New England Statistics Symposium

**Model-Based Voronoi linkage between point-referenced data and areal data in spatial analysis with application to the Brazilian election 2018**  
Talk.

STORRS, CT  
*May '22*

### The 34<sup>th</sup> New England Statistics Symposium

**Spatially misaligned data: An application to the 2018 Brazilian presidential election**  
Poster.

STORRS, CT  
*Oct '21*

### 2<sup>nd</sup> UConn Sports Analytics Symposium (UCSAS)

**Automatic team selection in a fantasy football (soccer) Game.**  
Poster.

STORRS, CT  
*Oct '20*

### 1<sup>st</sup> UConn Sports Analytics Symposium (UCSAS)

**Bayesian hierarchical models applied to fantasy games.**  
Poster.

STORRS, CT  
*Oct '19*

### 1<sup>ST</sup> CONFERENCE ON STATISTICS AND DATA SCIENCE

**Voronoi Data Linkage: Extracting data from polygons to points.**  
Contributed Talk.

SALVADOR, BRAZIL  
*Nov '18*

### 63<sup>TH</sup> MEETING FROM THE BRAZILIAN CHAPTER OF THE INTERNATIONAL BIOMETRIC SOCIETY (RBRAS) BRAZIL

**Voronoi Cells: Visualizing intramunicipality votes distribution**  
Contributed Talk.

*May '18*

### XIV BRAZILIAN MEETING ON BAYESIAN STATISTICS (EBEB)

**A Bayesian mixture model to fit players performance in fantasy games**  
Poster

RIO DE JANEIRO, BRAZIL  
*Mar '18*