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Lucas da Cunha Godoy

Department of Ecology and Evolutionary Biology University of California Santa Cruz Room 226, UCSC/Coastal Biology Building

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Education

Universidade Federal do Rio Grande do Sul PORTO ALEGRE, BRAZIL 2011-2016

Bachelor degree in Statistics

Introduction to geostatistical modeling for counting data: Parameters estimation with different MCMC algorithms

Universidade Federal de Minas Gerais Belo Horizonte, Brazil

Master in Statistics 2017-2019

Testing Spatial Association Between Two Types Polygons

Advisor: Renato Assunção

University of Connecticut STORRS, CT

M.Sc. in Statistics 2019-2022 2019-2024 Ph.D. in Statistics (GPA: 3.640)

Hausdorff-Gaussian Process with Spatial and Spatiotemporal Applications

Advisor: Jun Yan

Awards

ENVR American Statistical Association–Student Paper Competition PORTLAND, OR

Honorable mention. 2024

The EnviBayes workshop on complex environmental data, CSU FORT COLLINS, CO

Travel Award. 2023

Graduate School – University of Connecticut STORRS, CT

Summer Doctoral Dissertation Fellowship. 2023

Department of Statistics – University of Connecticut STORRS, CT

Teaching Award. 2021-2022

The 2022 ISBA World Meeting Montreal, CA

Travel Award. Jun '22

The Graduate School – University of Connecticut STORRS, CT

Conference Participation Award. Jun '22

1st Shiny Contest - RStudio United States

Honorable Mention Apr '19

Voronoys-Understanding voters' profile in Brazilian elections.

1st Conference on Statistics and Data Science Brazil

Best Paper Award on Statistics and Data Science Nov '18

Voronoy Data Linkage: Extracting Data from Polygons to Points.

Center for Politics and Economics in the Public Sector Studies (CEPESP)-FGV Brazil

1st CEPESP Data Challenge: Deciphering Brazil Elections

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.

Professional Experience

EEB-University of California Santa Cruz

Santa Cruz, CA Jun '24–present

Postdoctoral Researcher.

Analyses of range shifts in species distributions.

Statistical Consulting Services-University of Connecticut

Storrs, CT Aug '23–May '24

Graduate assistant.Walk-in statistical consulting.

High Performance Computing-University of Connecticut

STORRS, CT

Graduate assistant.

Aug '22-May '23

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.

Department of Statistics-University of Connecticut

STORRS, CT

Statistics Cluster Admin.

Jun '21 – present

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

Biostatistics Center–University of Connecticut Health Center

Farmington, CT

Graduate Assistant

Sep '20-Dec '23

Statistical consulting for UConn Health Center researchers.

Agibank

Porto Alegre, Brazil

Data Scientist

Dez '18–Jun '19

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

Grupo Conectt

Porto Alegre, Brazil

Digital Intelligence Analyst

Sep 16–Mar 17

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

Universidade Federal do Rio Grande do Sul

Porto Alegre, Brazil

Undergraduate Research Assistant (AMBES project-Petrobras)

Apr 15–Dec 15

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

Undergraduate Research Assistant

May 71-Dec 74

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

Instituto Brasileiro de Geografia e Estatística

Supervisor Agent-Census

Mar '10-Nov '10

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

Teaching Experience

University of Connecticut

STORRS, CT

Principal Instructor

Spring 2021–Spring 2022

STAT 3445-Introduction to Mathematical Statistics II.

Teaching Assistant

Fall 2019-Fall 2020

STAT 3445–Introduction to Mathematical Statistics II.

CTATOMEN 1 1 1 1

Fall 2019

STAT 2215Q-Introduction to Statistics II.

Teaching Assistant

Spring 2020

STAT 1000Q-Introduction to Statistics I.

Uniritter

Lecturer

Porto Alegre, Brazil

Spring 2019

Data analysis using R.

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-Arqub, S., Hariharan, A., Banankhah, S., **Godoy**, **L. d. C.**, Liu, P., Kuo, C., & Uribe, F. (0). 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 antisepsis for in-office procedures. *Clinical Otolaryngology*, *48*(4), 696–699. https://doi.org/10.1111/coa.14045
- Al-Naggar, I. M., Antony, M., Baker, D., Wang, L., **Godoy**, **L. d. C.**, Kuo, C., Fraser, M. O., Smith, P. P., Xu, M., & Kuchel, G. A. (2025). Polyploid superficial uroepithelial bladder barrier cells express features of cellular senescence across the lifespan and are insensitive to senolytics [e14399 ACE-23-0923.R2]. *Aging Cell*, 24(2), e14399. https://doi.org/10.1111/acel.14399
- Moriarty, K. L., Manfredi, K., Carrel, P., Kryzanski, E., Schwartz, D. A., **Godoy**, **L. d. C.**, Kuo, C., & Shields, A. (2025). Findings of reduced head circumference with COVID-19 infection in the third trimester: A retrospective cohort study. *Biomedicines*, 13(4). https://doi.org/10.3390/biomedicines13040832
- Sieger, M. L., **Godoy**, **L. d. C.**, Moore, T. E., Nichols, C., Goldsborough, E. J., Chen, S., Terplan, M., Griffin, B. A., & Patrick, S. W. (2025). Connecticut's novel prenatal substance exposure policy is associated with declining CPS reports and foster placements [PMID: 40623260]. *Health Affairs*, 44(7), 821–829. https://doi.org/10.1377/hlthaff.2024.01160
- Abu-Arqub, 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-Arqub, 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/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/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-Arqub, 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
- Wilson, C., Taxel, P., Shafer, D., Tadinada, A., **Godoy**, **L. d. C.**, Kuo, C., & Freilich, M. (2024). Cone beam computed tomography outcomes in patients diagnosed with compromised bone health undergoing dental implant therapy and bone augmentation. *The Journal of Prosthetic Dentistry*. https://doi.org/10.1016/j.prosdent.2024.10.030
- Abu-Arqub, 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-Arqub, 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-Arqub, 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-Arqub, 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/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-Arqub, 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-Arqub, 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.**, Prates, M., & Quintana, F. (2025). A note on defining positive definite functions. https://arxiv.org/abs/2502.15146
- Hernández, G. G., Seemann, J. R., **Godoy**, **L. d. C.**, Slot, M., & García-Robledo, C. (2025). Heat tolerance of tropical herbaceous plants increases with elevation. https://doi.org/10.1101/2025.03.12.642681
- **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

- Fredston, A., Ovando, D., Godoy, L. d. C., Kong, J., Muffley, B., Thorson, J. T., & Pinsky, M. (2025). Dynamic range models improve the near-term forecast for a marine species on the move. *Ecology Letters.* https://doi.org/10.32942/X24D00
- Godoy, L. d. C., Fredston, A., Morales, M., Bandara, R. M. W. J., & Pinsky, M. L. (2025). drmr: A Bayesian approach to Dynamic Range Models in R. DOUBLE-BLIND REVIEW.
- Godoy, L. d. C., Matthews, G. J., & Yan, J. (2025). A review of competitive structure analytics in sports. International Statistical Review.
- Pandya, S. S., Godoy, L. d. C., Alexander, C. S., Schneider, D., & Harknett, K. (2025). Using worker surveys to detect labor standards non-compliance. Statistics and Public Policy.
- 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. Journal of Agricultural Biological and Environmental Statistics. 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.

Refereeing

- Associate Editor: Journal of Data Science
- Reviews for: Biostatistics; International Statistical Review; Journal of the Royal Statistical Society: Series A; Journal of Data Science; Environmetrics

Invited Talks

Department of Epidemiology and Biostatistics, University of California San Francisco San Francisco, CA

Statistical Inferences and Predictions for Areal Data and Spatial Data Fusion with Hausdorff-**Gaussian Processes** Mar' 25

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

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

Stockholm Resilience Centre, University of Stockholm STOCKHOLM, SE Process-based species distribution models for improving predictive performance of climatedriven range shifts 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

1ST 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

PORTLAND, OR

From Point to Polygon: A Unified Framework for Modeling Spatial Dependence Aug '24

The 37th New England Statistics Symposium

STORRS, CT

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

24

Talk.

The EnviBayes workshop on complex environmental data, CSU Hausdorff-Gaussian process: Unifying spatial data analysis

FORT COLLINS, CO

Sep '23

Poster.

The 2022 ISBA World Meeting

Montreal, CA

An unified framework for point-level, areal, and mixed spatial data: The Hausdorff-Gaussian **Process** Jun '22

Talk.

The 35th New England Statistics Symposium

STORRS, CT

Model-Based Voronoi linkage between point-referenced data and areal data in spatial analysis with application to the Brazilian election 2018 May '22

The 34th New England Statistics Symposium

STORRS, CT

Spatially misaligned data: An application to the 2018 Brazilian presidential election Oct '21

2nd UConn Sports Analytics Symposium (UCSAS)

STORRS, CT

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

Oct '20

1st UConn Sports Analytics Symposium (UCSAS)

STORRS, CT

Bayesian hierarchical models applied to fantasy games. Poster.

Oct '19

1ST CONFERENCE ON STATISTICS AND DATA SCIENCE

Salvador, Brazil

Voronoi Data Linkage: Extracting data from polygons to points.

Nov '18

Contributed Talk.

63TH MEETING FROM THE BRAZILIAN CHAPTER OF THE INTERNATIONAL BIOMETRIC SOCIETY (RBRAS) Curitiba, Brazil

Voronoi Cells: Visualizing intramunicipality votes distribution Contributed Talk.

May '18

XIV Brazilian meeting on Bayesian Statistics (EBEB)

Rio de Janeiro, Brazil

A Bayesian mixture model to fit players performance in fantasy games

Mar 18

Poster