Lucas da Cunha Godoy

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Education

Universidade Federal do Rio Grande do Sul — Porto Alegre, Brazil
Bachelor degree in Statistics — *2011–2016*
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*
Ph.D. in Statistics (GPA: 3.640) — *2019–2024*
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
Postdoctoral Researcher. — *Jun '24–present*
Analyses of range shifts in species distributions.

Statistical Consulting Services-University of Connecticut   Storrs, CT
   Graduate assistant.   *Aug '23–May '24*
      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 '11–Dec '14*
      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.

   Grader   *Fall 2019*
      STAT 2215Q–Introduction to Statistics II.

   Teaching Assistant   *Spring 2020*
      STAT 1000Q–Introduction to Statistics I.

Uniritter   Porto Alegre, Brazil
   Lecturer   *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

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

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

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., da **Cunha Godoy, L.**, 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

Pandya, S. S., da **Cunha Godoy, L.**, 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

- Biostatistics

- International Statistical Review

- Journal of the Royal Statistical Society: Series A

- Journal of Data Science

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 '24

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 climate-driven range shifts
  Sep '24
    Joint talk with Dr. Mark Morales.

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

1ST Datathon - UFRGS — Porto Alegre, BR
  Web Scraping, Web Services & APIs.
  Nov '18

Graduate Students' Seminars - UFMG — Belo Horizonte, BR
  Analyzing Brazilian public data
  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
    Talk.

The 37th New England Statistics Symposium — Storrs, CT
  Beyond Traditional Disease Mapping: Hausdorff-Gaussian Process for Spatiotemporal Analysis of Tuberculosis Incidence
  May '24
    Talk.

The EnviBayes workshop on complex environmental data, CSU — Fort Collins, CO
  Hausdorff–Gaussian process: Unifying spatial data analysis
  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
    Talk.

The 34th New England Statistics Symposium — Storrs, CT
  Spatially misaligned data: An application to the 2018 Brazilian presidential election
  Oct '21
    Poster.

2nd UConn Sports Analytics Symposium (UCSAS) — Storrs, CT
  Automatic team selection in a fantasy football (soccer) Game.
  Oct '20
    Poster.

1st UConn Sports Analytics Symposium (UCSAS) — Storrs, CT
  Bayesian hierarchical models applied to fantasy games.
  Oct '19
    Poster.

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
  May '18
    Contributed Talk.

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

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