ANDRÉ FELIPE MENEZES

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WORK EXPERIENCE

Statistician and Data Science
Murabei

📅 June 2020 – Current 📍 São Paulo, SP, Brazil

Data analysis and modeling for national and international companies, including the following challenges:
- Forecast massive number of hierarchical time series.
- Forecast availability of returnable containers in production plants.
- Credit risk score with focus on small companies.
- Predict models for control quality process.
- Pricing models for credit recovery.

Intern
Bradesco Bank

📅 August 2018 – February 2019 📍 Curitiba, PR, Brazil

- ETL from large databases for credit risk studies
- Creation of automated process using SAS and R for preview risk evaluation.
- Credit Intelligence Academy: short course with focus on credit risk areas of modeling, strategy, and MIS.

PROJECTS

Statistical Methods for scRNA-seqData Modeling
CNPq/Unicamp

📅 February 2019 – April 2021 📍 Campinas, SP, Brazil

- I studied techniques used for data analysis in scRNA-seq, which include (i) methods for pre-processing raw data, (ii) data processing of counting matrix and (iii) statistical methods for data analysis.
- Real data analysis of cells from bronchoalveolar lavage fluid (BALF) tissue from patients with COVID-19 was conducted in order to characterize groups of cells and comparing the expression genes levels of individuals under different experimental conditions.

Methods of Bias Correction of Maximum Likelihood Estimators
CNPq/UEM

📅 July 2017– July 2018 📍 Maringá, PR, Brazil

- I studied three approach to obtain bias-corrected maximum likelihood estimates for the parameters of any probability distribution.
- I also introduce the `mle.tools` R package which can be used to computes the expected/observed Fisher information and the bias corrected estimates for the parameters of any probability distribution.

EDUCATION

M.Sc. in Statistics
State University of Campinas

📅 March 2019 – May 2021

- Thesis theme: Statistical Methods for scRNA-seq Data Modeling

B.Sc. in Statistics
State University of Maringá

📅 Feb 2014 – Feb 2019

- Developed projects:
  - Bias correction methods of maximum likelihood estimators.
  - Probability distributions with bounded support on $(0, 1)$.
  - A review of Geostatistics methodology.

STRENGTHS

Hard-working   Self-taught   Collaboration

Statistical Modeling   scRNA-seq   Time Series
Bayesian Inference   `R`   `python`   `C++`
git   cloud tools   docker

LANGUAGES

Portuguese ●●●●●

English ●●●○○

TEACHING EXPERIENCE

2020	**Undergraduate Tutor** Descriptive Statistics State University of Campinas
2019	**Undergraduate Tutor** Database for statistics State University of Campinas
2016	**Undergraduate Tutor** Statistics for engineering State University of Maringá
2015	**Undergraduate Tutor** Probability and Statistics State University of Maringá

PUBLICATIONS

📄 Journal Articles

- Mazucheli, J., Leiva, V., Alves, B., & Menezes, A. F. B. (2021). A new quantile regression for modeling bounded data under a unit Birnbaum-Saunders distribution with applications in medicine and politics. *Symmetry*, *13*(4), 1–21. doi:10.3390/sym13040682

- Mazucheli, J., Menezes, A. F. B. [A. F. B.], Alqallaf, F., & Ghitany, M. E. (2021). Bias-corrected maximum likelihood estimators of the parameters of the unit-Weibull distribution. *Austrian Journal of Statistics*, *50*(3), 41–53. doi:10.17713/ajs.v50i3.1023

- Menezes, A. F. B. [A. F. B.], Mazucheli, J., & Chakraborty, S. (2021). A collection of parametric modal regression models for bounded data. *Journal of Biopharmaceutical Statistics*, *31*(4), 490–506. doi:10.1080/10543406.2021.1918141

- Menezes, A. F. B. [A. F. B.], Mazucheli, J., Oliveira, R. P., & Chakraborty., S. (2021). Improved maximum likelihood estimation of the parameters of the gamma-uniform distribution with bias-corrections. *Communications in Statistics – Simulation and Computation*, 1–13. doi:10.1080/03610918.2021.1951760

- Mazucheli, J., Bapat, S. R., & Menezes, A. F. B. (2020). A new one-parameter unit-Lindley distribution. *Chilean Journal of Statistics*, *11*(1), 53–67.

- Mazucheli, J., Bertoli, W., Oliveira, R. P., & Menezes, A. F. B. (2020). On the discrete quasi xgamma distribution. *Methodology and Computing in Applied Probability*, *22*, 747–775. doi:10.1007/s11009-019-09731-7

- Mazucheli, J., Menezes, A. F. B. [A. F. B.], Dey, S., & Nadarajah, S. (2020). Improved parameter estimation of the Chaudhry and Ahmad distribution with climate applications. *Chilean Journal of Statistics*, *11*(2), 137–150.

- Mazucheli, J., Menezes, A. F. B. [A. F. B.], Fernandes, L. B., Oliveira, R. P., & Ghitany, M. E. (2020). The unit-weibull distribution as an alternative to the kumaraswamy distribution for the modeling of quantiles conditional on covariates. *Journal of Applied Statistics*, *47*(6), 954–974. doi:10.1080/02664763.2019.1657813

- Menezes, A. F. B. [A. F. B.], & Mazucheli, J. (2020). Improved maximum likelihood estimators for the parameters of the Johnson SB distribution. *Communications in Statistics - Simulation and Computation*, *49*(6), 1511–1526. doi:10.1080/03610918.2018.1498892

- Menezes, A. F. B. [A. F. B.], Mazucheli, J., Cardoso, J., & Chakraborty, S. (2020). The Transmuted Half-Normal distribution with application to precipitation data. *Pesquisa Operacional*, *40*(e216792), 1–30. doi:0.1590/0101-7438.2020.040.00216792

- Dey, S., Menezes, A. F. B., & Mazucheli, J. (2019). Comparison of estimation methods for unit-Gamma distribution. *Journal of Data Science*, *17*(4), 768–801. doi:10.6339/JDS.201910_17(4).0009

- Ghitany, M. E., Mazucheli, J., Menezes, A. F. B., & Alqallaf, F. (2019). The unit-inverse Gaussian distribution: A new alternative to two-parameter distributions on the unit interval. *Communications in Statistics - Theory and Methods*, *48*(14), 3423–3438. doi:10.1080/03610926.2018.1476717

- Mazucheli, J., & Menezes, A. F. B. [A. F. B.]. (2019). L-Moments and maximum likelihood estimation for the Complementary Beta distribution with applications on temperature extremes. *Journal of Data Science*, *17*(2), 391–406. doi:10.6339/JDS.201904_17(2).0009

SHORT COURSES

2018	**Joint Models in Biostatistics** State University of Maringá, 6h
2017	**Elements of Computational Statistics** University of São Paulo, 6h
2016	**Graphical Optimization in the R Environment** State University of Maringá, 9h
2016	**Introduction to R** UDEMY, 15h
2016	**Big Data and data visualization in R** Graduate Program of Biostatistics, 6h
2016	**My first R package** Graduate Program of Biostatistics, 2h
2016	**Production of dynamic reports using knitr and Rmarkdown** Graduate Program of Biostatistics, 2h
2015	**Aplied geostatistics** Federal Technological University of Paraná, 8h
2015	**Survival analysis** State University of Maringá, 8h
2015	**Demystifying LaTeX** State University of Maringá, 8h
2014	**Inductive inference: A genuinely Bayesian view** State University of Maringá, 6h
2014	**Introduction to R** State University of Maringá, 16h
2014	**Introduction to SAS, LaTeX, and Sweave** State University of Maringá, 48h
2013	**Excel: Basic resources** SENAC, 21h

CONFERENCES TALKS

2017	**The use of discrete cure fraction model in the analysis of oncological outcomes in the treatment of pelvic sarcomas**. I Statistical Modeling Meeting, Maringá.
2017	**Regression models for proportions: Beta and Simplex with applications to MHDI 2010**. I Statistical Modeling Meeting, Maringá.
2017	**Monte Carlo study of multiple comparisons corrections in t-test.** 5th Workshop on Probabilistic and Statistical Methods, Federal University of São Carlos, São Carlos.
2016	**Likelihood ratio, Wald, and Score statistics in small samples for Beta distribution.** I Biostatistics Workshop, Maringá.

- Mazucheli, J., Menezes, A. F. B., & Dey, S. (2019a). Bias-corrected maximum likelihood estimators of the parameters of the inverse Weibull distribution. *Communications in Statistics - Simulation and Computation*, *48*(7), 2046–2055. doi:10.1080/03610918.2018.1433838

- Mazucheli, J., Menezes, A. F. B., & Dey, S. (2019b). Unit-Gompertz distribution with applications. *Statistica*, *79*(1), 25–43. doi:10.6092/issn.1973-2201/8497

- Mazucheli, J., & Menezes, S., A. F. B.and Chakraborty. (2019). On the one parameter unit-Lindley distribution and its associated regression model for proportion data. *Journal of Applied Statistics*, *46*(4), 700–714. doi:10.1080/02664763.2018.1511774

- Menezes, A. F. B. [A. F. B.], & Furriel, W. O. (2019). Beta and simplex regression models in the analysis of the municipal human development index 2010. *Revista Brasileira de Biometria*, *37*(3), 394–408. doi:10.28951/rbb.v37i3.408

- Oliveira, R. P., Menezes, A. F. B., Mazucheli, J., & Achcar, J. A. (2019). Mixture and nonmixture cure fraction models assuming discrete lifetimes: Application to a pelvic sarcoma dataset. *Biometrical Journal*, *61*(4), 813–826. doi:10.1002/bimj.201800030

- Félix, V. B., & Menezes, A. F. B. [A. F. B.]. (2018). Comparisons of ten corrections methods for t-test in multiple comparisons via monte carlo study. *Electronic Journal of Applied Statistical Analysis*, *11*(1), 74–91. doi:10.1285/i20705948v11n1p74

- Mazucheli, J., Menezes, A. F. B. [A. F. B.], & Dey, S. (2018a). Improved maximum-likelihood estimators for the parameters of the unit-gamma distribution. *Communications in Statistics - Theory and Methods*, *47*(15), 3767–3778. doi:10.1080/03610926.2017.1361993

- Mazucheli, J., Menezes, A. F. B. [A. F. B.], & Dey, S. (2018b). The unit-Birnbaum-Saunders distribution with applications. *Chilean Journal of Statistics*, *9*(1), 47–57.

- Mazucheli, J., Menezes, A. F. B. [A. F. B.], & Ghitany, M. E. (2018). The unit-weibull distribution and associated inference. *Journal of Applied Probability and Statistics*, *13*, 1–22.

- Menezes, A. F. B. [A. F. B.], Mazucheli, J., & Barco, K. V. P. (2018). The power inverse Lindley distribution: Different methods of estimation. *Ciência e Natura*, *40*(e24), 1–12. doi:10.5902/2179460X27500

- Menezes, A. F. B. [A. F. B.], Mazucheli, J., & Dey, S. (2018). The unit-logistic distribution: Different methods of estimation. *Pesquisa Operacional*, *38*, 555–578. doi:10.1590/0101-7438.2018.038.03.0555

- Mazucheli, J., Menezes, A. F. B., & Nadarajah, S. (2017). mle.tools: An R Package for Maximum Likelihood Bias Correction. *The R Journal*, *9*(2), 268–290. doi:10.32614/RJ-2017-055

💻 Software

- Menezes, A. F. B. [A. F. B]. (2021). *RBATS: Bayesian Dynamic Models*. R package available at: https://github.com/AndrMenezes/RBATS.

- Menezes, A. F. B. [A. F. B.], & Mazucheli, J. (2021). *Unitquantreg: Parametric quantile regression models for bounded data*. R package available at: https://github.com/AndrMenezes/unitquantreg. Retrieved from https://andrmenezes.github.io/unitquantreg

POSTER PRESENTATIONS

2016 **Monte Carlo simulation study for post hoc tests**, XIII Statistics Research Week, State University of Maringá.

2016 **Probabilistic distribution for proportions: A baseball application.**, XIII Statistics Research Week, State University of Maringá.

2015 **Cluster analysis for time series of hospitalizations for bronchiolitis in the Regional Health Departments of Paraná**. XII Statistics Research Week, State University of Maringá.

2015 **Proposal for a Semivariance Estimator for Big Data**. XII Statistics Research Week, State University of Maringá.