ADÈLE HELENA RIBEIRO

PERSONAL INFORMATION

Born in Brazil, June 4, 1985

email adele@cs.columbia.edu

website https://adele.github.io/

EDUCATION

November 2018 — University of São Paulo, Brazil

Doctor of Philosophy in Computer Science

Institution: Institute of Mathematics and Statistics.
PhD's dissertation: *Identification of Causality in Genetics and Neuroscience.*
DOI:10.11606/T.45.2019.tde-15032019-190109
Advisor: Prof. André Fujita.
Co-Advisor: Prof. Júlia Maria Pavan Soler

Fall 2017 — Princeton University, USA

Research Internship

Institution: Neuroscience Institute
Research Project: *Deep Learning algorithms for pose representation and dynamics modeling of marmoset monkeys.*
Supervisor: Prof. Asif A. Ghazanfar.

Jun 2014 — University of São Paulo, Brazil

Master of Science in Computer Science

Institution: Institute of Mathematics and Statistics.
Master's thesis: *Gene expression analysis taking into account measurement errors and application to real data.* DOI:10.11606/D.45.2014.tde-04082014-163616.
Advisor: Prof. Roberto Hirata Jr.

Dec 2011 — University of São Paulo, Brazil

Bachelor of Science in Computational and Applied Mathematics

Institution: Institute of Mathematics and Statistics.
Senior thesis: *Analysis of Pyroelectric Infrared (PIR) sensor output signals.*
Advisor: Prof. Roberto Hirata Jr.

POSITIONS

Sept 2019 – Present — Columbia University, USA

Postdoctoral Researcher

Institution: Causal Artificial Intelligence Lab, Department of Computer Science.
Research project: *Causal Health Sciences – Machine Learning, Decision-Making, and Transportability from Biased and Heterogeneous Data Collections to Personalized and Improved Patient Outcomes.*
Supervisor: Prof. Elias Bareinboim.

Jan 2019 – Aug 2019 — Heart Institute, University of São Paulo, Brazil

Postdoctoral Researcher

Institution: Laboratory of Genetics and Molecular Cardiology.
Research project: *Deep Learning for 12-lead ECG Classification.*
Supervisor: Prof. José Eduardo Krieger.

PUBLICATIONS

Research Article

Anand, T., Ribeiro, A. H., Tian, J. , Bareinboim, E. (2021). *Effect Identification in Causal Diagrams with Clustered Variables.* Columbia CausalAI Laboratory, Technical Report, R-77

Research Article

Ribeiro, A. H., Soler, J. M. P.. (2020). *Learning Genetic and Environmental Graphical Models from Gaussian Family Data.* Statistics in Medicine. 39: 2403– 2422. DOI: 10.1002/sim.8545

Research Article

Ribeiro, A. H., Gutierrez, M. A., and Krieger, J. E. (2020). *Deep learning approach for normal versus abnormal 12-lead ECG images classification.* Manuscript in preparation.

Research Article

Ribeiro, A. H., Soler, J. M. P., R. Hirata Jr.. (2019). *Variance-Preserving Estimation of Intensity*

Values Obtained from Omics Experiments. Frontiers in Genetics, 10:855. DOI: 10.3389/fgene.2019.00855.

Research Article

Ribeiro, A. H., Lotufo, P., Fujita, A, Goulart, A., Chor, D., Mill, J. G., Bensenor, I., Santos, I. S. (2017). *Association Between Short-Term Systolic Blood Pressure Variability and Carotid Intima-Media Thickness in ELSA-Brasil Baseline*. American Journal of Hypertension, 30:954–960. DOI: 10.1093/ajh/hpx076.

Springer Book Chapter

Ribeiro, A. H., Soler, J. M. P., Neto, E. C., Fujita, A. (2016). *Causal Inference and Structure Learning of Genotype-Phenotype Networks Using Genetic Variation.* In Big Data Analytics in Genomics. Springer International Publishing, New York, p. 89-143. DOI: 10.1007/978-3-319-41279-5_3.

GRANTS AND SCHOLARSHIPS

Jan 2019– Aug 2019 — Postdoctoral Research Fellowship

CAPES

Postdoctoral Fellowship from Coordination for the Improvement of Higher Education Personnel.

Sep 2017 – Dec 2017 — PhD Visiting Student at Princeton University

CAPES

Scholarship from Coordination for the Improvement of Higher Education Personnel for research internship at Princeton Neuroscience Institute.

Aug 2014– Jul 2018 — PhD Graduate Research Scholarship

CAPES

Graduate Scholarship from Coordination for the Improvement of Higher Education Personnel for Doctorate of Philosophy in Computer Science.

Mar 2012 – Feb 2014 — MSc Graduate Research Scholarship

CAPES/CNPq

Graduate Scholarship from National Council of Technological and Scientific Development for Master of Science in Computer Science.

PARTICIPATION IN CONFERENCES AND WORKSHOPS

October 2018 — X-Meeting - 14th International Conference of the AB3C, São Pedro, SP, Brazil

Research Poster (Best Poster Award)

Ribeiro, A. H., Sato, J. R., Fujita, A. Granger Causality Between Graphs and Applications in Functional Brain Networks. *X-Meeting - 14th International Conference of the AB3C*, 2018, São Pedro, SP, Brazil.

September 2018 — XXXVIII-th CNMAC, Campinas, SP, Brazil

Reviewer

XXXVIII-th National Congress of Applied and Computational Mathematics – CNMAC, 2018, at the IMECC, UNICAMP, Campinas, SP, Brazil.

July 2018 — XXIXth International Biometric Conference, Spain

Oral Presentation

Ribeiro, A. H., Soler, J. M. P., Fujita, A. Learning Genetic and Environmental Causal Graphical Models in Family-Based Studies. *XIXth International Biometric Conference*, 2018, Barcelona, Spain.

July 2017 — 3^o Congresso de Graduação da Universidade de São Paulo

Educational Poster

Ribeiro, A. H., Soler, J. M. P. , Jahnke, M. R.. A produção da cerveja produzindo conhecimento. 3^o *Congresso de Graduação da USP*, 2017, São Paulo, SP, Brazil.

July 2016 — IXXVII-th International Biometric Conference, Canada.

Conference Abstract

Ribeiro, A. H., Soler, J. M. P. , Fujita, A. A Comparative Study of Algorithms for Learning Causal Genotype–Phenotype Networks. *Abstracts for the XXVIIIth International Biometric Conference*, 10-15 July, 2016, Victoria, British Columbia, International Biometric Society. ISBN 978-0-9821919-4-1.

May 2015 — SID 2015, 74th Annual Meeting of the Society for Investigative Dermatology, Atlanta, GA, USA.

Conference Abstract

Swinka, BB, Carvalho, CM, Weihermann, A, Schuck, DC, Boldrini, N, Silva, VV, Costa, MT,

Ribeiro, AH, Fujita, A, Brohem CA, and Lorencini M. Analysis of extracellular-matrix and cell-adhesion genes modulated by mechanical massage applied in combination with a cosmetic emulsion. *Supplement issue of the Journal of Investigative Dermatology, Epidermal Structure & Barrier Function*, v. 135, p. S58-S69, 2015. DOI: 10.1038/jid.2015.71

October 2014 — ISCB-Latin America X-Meeting on Bioinformatics with BSB and SoiBio, Belo Horizonte, MG, Brazil

Research Poster

Ribeiro, A. H., Hirata Jr., R. , Soler, J. M. P. Two-color microarray data analysis taking into account probe-level inaccuracies. *ISCB-Latin America X-Meeting on Bioinformatics with BSB and SoiBio*, 2014, Belo Horizonte, MG, Brazil.

TEACHING EXPERIENCE

SHORT COURSES

Jan 2017 — Dimensionality Reduction and Structure Learning with Applications to Genomics
Graduate Summer School at the São Paulo State University - UNESP, Presidente Prudente, Brazil

May 2016 — Dimensionality Reduction Applied to Genomics
61^{a} *Reunião Anual da Região Brasileira da Sociedade Internacional de Biometria (RBras)*, Bahia.

TEACHING ASSISTANT

Feb 2018–Jul 2018 — Software Design using Python
Computer Engineering Department - Insper (Institute of Education and Research), SP, Brazil.

Mar 2017–Jul 2017 — Statistical Design of Experiments
Institute of Mathematics and Statistics - University of São Paulo, Brazil.

Aug 2016–Dec 2016 — Multivariate Data Analysis
Institute of Mathematics and Statistics - University of São Paulo, Brazil.

Mar 2016–Jul 2016 — Statistical Methods for Genetics and Genomics
Institute of Mathematics and Statistics - University of São Paulo, Brazil.

Aug 2015–Dec 2015 — Multivariate Data Analysis
Institute of Mathematics and Statistics - University of São Paulo, Brazil.

Mar 2015–Jul 2015 — Mathematics, Architecture and Design
Architecture and Urbanism College - University of São Paulo, Brazil.

Aug 2014–Dec 2014 — Statistical techniques, programming and simulation
Institute of Mathematics and Statistics - University of São Paulo, Brazil.

Mar 2014–Jul 2014 — Numerical Calculus with Applications in Physics
Institute of Astronomy, Geophysics and Atmospheric Sciences - University of São Paulo, Brazil.

Aug 2013–Dec 2013 — Mathematical Modeling
Institute of Mathematics and Statistics - University of São Paulo, Brazil.

Mar 2013–Jul 2013 — Introduction to Computer Programming
Institute of Mathematics and Statistics - University of São Paulo, Brazil.

Aug 2012–Dec 2012 — Linear Programming
Institute of Mathematics and Statistics - University of São Paulo, Brazil.

Mar 2012–Jul 2012 — Numerical Methods for Linear Algebra
Institute of Mathematics and Statistics - University of São Paulo, Brazil.

OPEN-SOURCE LIBRARIES

2018 – Present

R package FamilyBasedPGMs: Methods for Learning Genetic and Environmental Graphical Models from Gaussian Family Data.
Repository: https://github.com/adele/FamilyBasedPGMs

2018 – Present

R package omicsMA: Variance-Preserving Estimation and Normalization of M-A Values from Omics Experiments.
Repository: https://github.com/adele/omicsMA

OTHER SKILLS

Programming Languages Python, R, Matlab, Octave, C#, C++, C, Java, Ruby, PHP, ADA, APQ, Corba, MySQL, PostgreSQL.

Languages

- Portuguese · Native language.
- English · Fluent.
- Japanese · Basic reading, listening, and speaking.

July 14, 2021