CURRICULUM VITAE

Ademir Alves Ribeiro

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Personal Information

Name: Ademir Alves Ribeiro
Adress: Department of Mathematics
Federal University of Paraná, CP 19081
Curitiba, Paraná, Brazil, 81531-980
Phone: 55.41.33613403
Fax: 55.41.33613019
Email: ademir.ribeiro@ufpr.br, ademir.aribeiro@gmail.com
URL: www.ufpr.br/∼ademir.ribeiro
Born: April 9, 1968 - Curitiba, Brazil

Current position

Associate Professor, Federal University of Paraná since 1992

Areas of specialization

Applied Mathematics, nonlinear programming, continuous optimization

Education

2002 – 2005: PhD in Numerical Methods in Engineering, Federal University of Paraná
1990 – 1993: MSc in Mathematics, National Institute for Pure and Applied Mathematics
1986 – 1989: Undergraduate in Mathematics, Federal University of Paraná

Postdoctoral stage

Oct/2014 – Mar/2015: Research in Optimization, University of Edinburgh, supervised by Peter Richtárik

Published Papers

1. Ribeiro, A. A.; Barbosa, J. R. R.. *How to correctly answer "Is the optimal critical point a local minimizer?" in Calculus courses.* International Journal of Mathematical Education in Science and Technology, to appear.

2. Andreani, R.; Cárdenas, A. R. V.; Ramos, J. A.; Ribeiro, A. A.; Secchin, L. D.. *On the convergence of augmented Lagrangian strategies for nonlinear programming.* IMA Journal of Numerical Analysis, to appear.

3. Krulikovski, E. H. M.; Ribeiro, A. A.; Sachine, M.. *On the weak stationarity conditions for Mathematical Programs with Cardinality Constraints: a unified approach.* Applied Mathematics and Optimization, to appear.

4. Ribeiro, A. A.; Sachine, M.. *On the optimal separating hyperplane for arbitrary sets: a generalization of the SVM formulation and a convex hull approach.* Optimization, to appear.

5. Eustaquio, R. G.; Ribeiro, A. A.; Dumett, M. A.. *A new class of root-finding methods in $\mathbb{R}^n$: the inexact tensor-free Chebyshev-Halley class.* Computational and Applied Mathematics, v. 37, p. 6654–6675, 2018.

6. Ribeiro, A. A.; Sachine, M.; Santos, S. A.. *On the approximate solutions of augmented subproblems within sequential methods for nonlinear programming.* Computational and Applied Mathematics, v. 37, p. 6601–6618, 2018.

7. Ribeiro, A. A.; Richtárik, P.. *The complexity of primal-dual fixed point methods for ridge regression.* Linear Algebra and its Applications, v. 556, p. 342–372, 2018.

8. Silva, T. C.; Ribeiro, A. A.; Periçaro, G. A.. *A new accelerated algorithm for ill-conditioned ridge regression problems.* Computational and Applied Mathematics, v. 37, p. 1941–1958, 2018.

9. Ribeiro, A. A.; Sachine, M.; Santos, S. A.. *On the augmented subproblems within sequential methods for nonlinear programming.* Computational and Applied Mathematics, v. 36, p. 1255–1272, 2017.

10. Braga, A. C.; Alves, L. G. A.; Costa, L. S.; Ribeiro, A. A.; de Jesus, M. M. A.; Tateishi, A. A.; Ribeiro, H. V.. *Characterization of river flow fluctuations via horizontal visibility graphs.* Physica A, v. 444, p. 1003–1011, 2015.

11. Periçaro, G. A.; Santos, S. R.; Ribeiro, A. A.; Matioli, L. C.. *HLRF-BFGS optimization algorithm for structural reliability.* Applied Mathematical Modelling, v. 39, p. 2025–2035, 2015.

12. Periçaro, G. A.; Ribeiro, A. A.; Karas, E. W.. *Global convergence of a general filter algorithm based on an efficiency condition of the step.* Applied Mathematics and Computation, v. 219, p. 9581–9597, 2013.

13. Conejo, P. D.; Karas, E. W.; Pedroso, L. G.; Ribeiro, A. A.; Sachine, M.. *Global convergence of trust-region algorithms for convex constrained minimization without derivatives.* Applied Mathematics and Computation, v. 220, p. 324–330, 2013.

14. Cotrina, J.; Karas, E. W.; Ribeiro, A. A.; Sosa, W.; Yuan, J. Y.. *Fenchel Moreau conjugation for lower semi-continuous functions.* Optimization, v. 60, p. 1045–1057, 2011.

15. Ferreira, P. S.; Karas, E. W.; Palucoski, F. L.; Ribeiro, A. A.; Silva, A. L.. *Aplicação de programação inteira na distribuição de encargos didáticos em instituições de ensino.* TEMA, v. 12, p. 135–144, 2011.

16. Karas, E. W.; Gonzaga, C. C.; Ribeiro, A. A.. *Local convergence of filter methods for equality constrained non-linear programming.* Optimization, v. 59, p. 1153–1171, 2010.

17. Karas, E. W.; Pilotta, E. A.; Ribeiro, A. A.. *Numerical comparison of merit function with filter criterion in inexact restoration algorithms using hard-spheres problems.* Computational Optimization and Applications, v. 44, p. 427–441, 2009.

18. Karas, E. W.; Ribeiro, A. A.; Sagastizábal, C.; Solodov, M.. *A bundle-filter method for nonsmooth convex constrained optimization.* Mathematical Programming, v. 116, p. 297–320, 2009.

19. Karas, E. W.; Oening, A. P.; Ribeiro, A. A.. *Global convergence of slanting filter methods for nonlinear programming.* Applied Mathematics and Computation, v. 200, p. 486–500, 2008.

20. Ribeiro, A. A.; Karas, E. W.; Gonzaga, C. C.. *Global Convergence of Filter Methods for Nonlinear Programming.* SIAM Journal on Optimization, v. 19, p. 1231–1249, 2008.

Published Book

Ribeiro, A. A.; Karas, E. W.. **Continuous Optimization: Theoretical and computational aspects** (in Portuguese). Cengage Learning, São Paulo, Brazil, 2013.

Talks

1. *On the optimal separating hyperplane for arbitrary sets: a generalization of the support vector machine formulation and a convex hull approach.* Brazilian Workshop on Continuous Optimization, Rio de Janeiro, 2019.

2. *Accelerated Primal-Dual Fixed Point Algorithms for Ridge Regression Problems.* Brazilian Workshop on Continuous Optimization, Foz do Iguaçu, 2018.

3. *On the approximate solutions of augmented subproblems within sequential methods.* International Symposium on Mathematical Programming, Bordeaux, 2018.

4. *The complexity of primal-dual fixed point methods for Ridge Regression.* Computational Optimisation Group, Imperial College London, 2015.

5. *A new class of root-finding methods in* $\mathbb{R}^n$*: The Inexact Chebyshev-Halley tensor free class.* Optimization, Guimarães, 2014.

6. *Theoretical aspects of adopting exact penalty elements within sequential methods for nonlinear programming.* Brazilian Workshop on Continuous Optimization, Florianópolis, 2014.

7. *Fenchel-Moreau conjugation for lower semi-continuous functions.* International Symposium on Mathematical Programming, Berlin, 2012.

8. *An extension of Fenchel's conjugation.* Brazilian Workshop on Continuous Optimization, Rio de Janeiro, 2009.

9. *Slanting filter methods for nonlinear programming.* Optimization, Porto, 2007.

10. *Global convergence of filter methods for nonlinear programming.* International Symposium on Mathematical Programming, Rio de Janeiro, 2006.

Supervised PhD students

1. Evelin Heringer Manoel Krulikovski, 2021.

2. Ariel Rogelio Velazco Cardenas, 2019.

3. Marcos Bombacini, 2017.

4. Adriana Camila Braga, 2016.

5. Leonardo Moreto Elias, 2016.

6. Tatiane Cazarin da Silva, 2016.

7. Rodrigo Garcia Eustáquio, 2013.

8. Gislaine Aparecida Periçaro, 2011.

Supervised Master students

1. Evelin Heringer Manoel Krulikovski, 2017 (co-advisor).

2. Kléber Benatti, 2017.

3. Leonardo Moreto Elias, 2013.

4. Josué Ervin Musial, 2010.

5. Rodrigo Garcia Eustáquio, 2007 (co-advisor).

6. Wilfredo Tomaselli, 2006 (co-advisor).

7. Ana Paula Oening, 2006 (co-advisor).

8. Alessandra Machado da Mota, 2005 (co-advisor).