

Rodrigo S Targino

Curriculum Vitae
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📍 School of Applied Mathematics (EMAp),
Getulio Vargas Foundation (FGV),
Rio de Janeiro, RJ, Brazil.
🏠 rtargino.netlify.app
✉️ rodrigo.targino@fgv.br

Education

2012 – 2017	PhD in Statistics University College London	London, UK
2008 – 2010	MSc in Statistics Federal University of Rio de Janeiro (UFRJ)	Rio de Janeiro, Brazil
2004 – 2007	BSc in Applied Mathematics Federal University of Rio de Janeiro (UFRJ)	Rio de Janeiro, Brazil

Employment

2017 – Present	Assistant Professor Getulio Vargas Foundation (FGV) - School of Applied Mathematics (EMAp)	Rio de Janeiro, RJ, Brazil
2022 – 2023	Visiting Associate Professor University of California, Santa Barbara (UCSB) - Department of Statistics and Applied Probability	Santa Barbara, CA, USA
2011 – 2012	Market Risk Analyst Credit-Suisse Hedging-Griffo	São Paulo, SP, Brazil
2010 – 2011	Credit Risk Modelling Analyst Itaú-Unibanco Bank	São Paulo, SP, Brazil

Grants

2024 – 2026	Generational mortality tables for Brazilian pension funds	FGV Applied Research Grant
2022 – 2025	Construction and risk management of financial portfolios in high dimensions using approximated inference	JCNE - FAPERJ
2023 – 2023	Research in Options 2023*	Events - FAPERJ
2022 – 2023	Multi-population mortality modelling and pension risk management	Bolsa Esp Exter - CNPq
2021 – 2023	Construction and risk management of financial portfolios in high dimensions using approximated inference	APQ - FAPERJ
2022 – 2022	Topic modelling in news articles: an example from Brazil	MAPS Visiting Fellowship - UCL
2020 – 2022	Encrypted Machine Learning: Applications in Actuarial Sciences and Beyond	ARC - FAPERJ
2019 – 2021	A novel framework for semi-automatic text classification	FGV EMAP
2019 – 2019	2nd Financial Mathematics Team Challenge - Brazil*	FGV EMAP
2017 – 2019	Improvements of the Brazilian economic uncertainty index	FGV Applied Research Grant
2018 – 2018	1st Financial Mathematics Team Challenge - Brazil*	FGV EMAP
2018 – 2018	1st Financial Mathematics Team Challenge - Brazil*	PAEP - CAPES
2017 – 2018	Development of a price index for car insurance in Brazil	FGV Applied Research Grant

(*) event organization

Awards

2023	Supervisor of SBMAC's best undergraduate project
2022	CNPq Postdoc scholarship
2017	Mentor of the winning team of the 4th FMTC
2014	Australia Awards Endeavour Fellowship
2012	CSIRO Top-up travel bursary
2012	CNPq PhD scholarship
2008	CAPES Masters scholarship
2006	CNPq Scientific Initiation scholarship

Teaching experience

2023 – 2023	BSc - Regression Analysis	UCSB
2022 – 2023	BSc - Introduction to Bayesian Data Analysis	UCSB
2019 – 2022*	BSc - Machine Learning	FGV
2020 – 2022	MSc/PhD - Machine Learning	FGV
2019 – 2022	MSc - Probability	FGV
2017 – 2021*	MSc - Statistics and Econometrics	IMPA
2020 – 2020	BSc - Statistics and Econometrics	FGV
2018 – 2019	MSc - Statistics	FGV
2017 – 2018	BSc - Probability	FGV
2017 – 2018	BSc - Statistics	FGV

(*) excluding 2018

Academic supervisions

PhD

MSc

2023 – Present	TBD Leandro Guilherme	IMPA
2019 – Present	TBD Christiano Lo Bianco Clementino	IMPA
2022 – 2023	Optimal Investment-Consumption Decision Using Reinforcement Learning André Lorenzo Bittencourt	IMPA
2019 – 2023	Estimating Risk Measures of multiple Portfolio Optimization Strategies Hugo Barreto	FGV
2020 – 2021	Modelos in-play para partidas do Campeonato Brasileiro de Futebol Luiz Fernando G. N. Maia	FGV
2019 – 2020	Identification of causal effects: a methodological review Pedro Medeiros Teixeira	FGV
2019 – 2020	Multivariate loss reserving using factor copulas Marcelo Orgler	FGV
2018 – 2019	Pricing interest rate derivatives under monetary changes Lucas Paiva de Carvalho	IMPA
2018 – 2019	Previsões de Resultados em Partidas do Campeonato Brasileiro de Futebol João Marcos Amorim dos Santos	FGV
2018 – 2019	Tree Based Model for Estimating the Local Volatility Surface Yuri Resende Fonseca*	IMPA
2017 – 2018	Estudo de aplicações de Processos Gaussianos na predição de valor de oferta de venda de apartamentos Renan Lima Novais*	FGV

BSc

2023 – 2023	Inferência Bayesiana em Processos Gaussianos Victor Bombarda	FGV
2022 – 2023	A Survey On Fully Homomorphic Encryption With Statistical Applications Rener de Souza Oliveira	FGV
2021 – 2021	Estudo do filtro de Kalman para modelos dinâmicos lineares Denner da Silva Santos	FGV
2021 – 2021	Estudo da utilização de redes neurais recorrentes para geração de manchetes Vitoria Mesquita Leite	FGV

2019 – 2020	Impacto da sensibilidade a variáveis Macroeconômicas no Risco de Crédito Corporativo Norte-americano Matheus Borghi	FGV
2017 – 2017	Modelos de previsão do resultado de atas do Copom baseados em processamento de linguagem natural e curvas de ativos financeiros Paulo de Tarso Silva Santos*	FGV
2016 – 2016	O Cálculo do VaR usando Modelos de Volatilidade Helder Rezende*	FGV

(*) Second supervisor

Editorial activity

2021 – Present	Associate Editor	Brazilian Finance Review (RBFIn)
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Refereeing services

Journals

Risks, Journal of Risk and Financial Management, Computation and Applied Mathematics, Brazilian Review of Econometrics, ASTIN Bulletin, Journal of Banking and Finance, Sustainability, Quantitative Finance, Revista Contabilidade & Finanças, Brazilian Review of Finance, International Journal of Forecasting, Applied Stochastic Models in Business and Industry, Computational Statistics, Annals of Actuarial Science, European Actuarial Journal, Variance, Methodology and Computing in Applied Probability, Annals of Operations Research

Funding agencies

Natural Sciences and Engineering Research Council of Canada, Czech Science Foundation

Research visits

2022	Ioanna Manolopoulou	UCL,UK
2019	Emmanuel Gobet	École Polytechnique,France
2019	Samuel Livingstone	UCL,UK
2014	Mario Wüthrich	ETH,Switzerland
2014	Pavel Shevchenko	CSIRO,Australia
2013	Pavel Shevchenko	CSIRO,Australia

Publications

Refereed research papers

- Costa, B. F. P. da, Pesenti, S., & Targino, R. S. (2023). Risk Budgeting Portfolios from Simulations. *European Journal of Operational Research*, 311, 1040–1056. <https://doi.org/10.1016/j.ejor.2023.06.003>
- Benezet, C., Gobet, E., & Targino, R. S. (2023). Transform MCMC schemes for sampling intractable factor copula models. *Methodology and Computing in Applied Probability*, 25. <https://doi.org/10.1007/s11009-023-09983-4>
- Koike, T., Saporito, Y. F., & Targino, R. S. (2022). Avoiding zero probability events when computing Value at Risk contributions. *Insurance: Mathematics and Economics*, 106, 173–192. <https://doi.org/https://doi.org/10.1016/j.insmathco.2022.06.004>
- Nieto-Barajas, L. E., & Targino, R. S. (2021). A gamma moving average process for modelling dependence across development years in run-off triangles. *ASTIN Bulletin: The Journal of the IAA*, 51(4), 245–266. <https://doi.org/http://doi.org/10.1017/asb.2020.36>
- Merkle, M., Saporito, Y. F., & Targino, R. S. (2020). Bayesian approach for parameter estimation of continuous-time stochastic volatility models using Fourier transform methods. *Statistics & Probability Letters*, 156, 108600. <https://doi.org/https://doi.org/10.1016/j.spl.2019.108600>
- Peters, G. W., Targino, R. S., & Wüthrich, M. V. (2017). Bayesian modelling, Monte Carlo sampling and capital allocation of insurance risks. *Risks*, 5(4), 53. <https://doi.org/https://doi.org/10.3390/risks5040053>
- Targino, R. S., Peters, G. W., Sofronov, G., & Shevchenko, P. V. (2017). Optimal exercise strategies for operational risk insurance via multiple stopping times. *Methodology and Computing in Applied Probability*, 19(2), 487–518. <https://doi.org/http://dx.doi.org/10.1007/s11009-016-9493-8>
- Peters, G. W., Targino, R. S., & Wüthrich, M. V. (2017). Full bayesian analysis of claims reserving uncertainty. *Insurance: Mathematics and Economics*, 73, 41–53. <https://doi.org/http://dx.doi.org/10.1016/j.insmathco.2016.12.007>

9. Targino, R. S., Peters, G. W., & Shevchenko, P. V. (2015). Sequential Monte Carlo Samplers for capital allocation under copula-dependent risk models. *Insurance: Mathematics and Economics*, 61, 206–226. <https://doi.org/https://doi.org/10.1016/j.insmatheco.2015.01.007>
10. Peters, G. W., Targino, R. S., & Shevchenko, P. V. (2013). Understanding operational risk capital approximations: first and second orders. *The Journal of Governance and Regulation*, 2(3). https://doi.org/https://doi.org/10.22495/jgr_v2_i3_p6

Working papers under revision or review

1. Maia, L. F. G. N., Pennanen, T., Silva, M. A. H. B. da, & Targino, R. S. (2023). *Stochastic modelling of football matches*. <https://arxiv.org/abs/2312.04338>
2. Graziadei, H., Marques F., P. C., Melo, E. F. L. de, & Targino, R. S. (2023). *Conformal prediction for frequency-severity modeling*. <https://arxiv.org/abs/2307.13124>
3. Jaimungal, S., Pesenti, S., Saporito, Y., & Targino, R. S. (2023). *Risk Budgeting Allocation for Dynamic Risk Measures*. <https://ssrn.com/abstract=4452742>
4. Evangelista, D., Saporito, Y. F., & Targino, R. S. (2021). *Uma análise do risco de fundos de ações brasileiros em 2020*. <https://papers.ssrn.com/abstract=3825680>
5. Duarte, D., Saporito, Y. F., & Targino, R. S. (2018). *The Impact of the Freedom of the Press on Risk*. <https://dx.doi.org/10.2139/ssrn.3218754>

Academic presentations

1. Targino, R. S. (2023). Risk Budgeting Portfolios from Simulations. *Escola de Séries Temporais, Florianópolis, Brazil*. https://www.dropbox.com/s/6lhsecdr5udtjzj/risk_parity.pdf?dl=0
2. Targino, R. S. (2023). Avoiding zero probability events when computing Value at Risk contributions. *SIAM Financial Mathematics 2023, Philadelphia, USA*. https://www.dropbox.com/s/f3p11iquw0i4b6m/slides_Euler_Malliavin.pdf?dl=0
3. Targino, R. S. (2023). Risk Budgeting Portfolios from Simulations. *Financial and Actuarial Mathematics (FAM) Seminar, UCLA*. https://www.dropbox.com/s/dxk2ni9n8q43tlg/risk_parity.pdf?dl=0
4. Targino, R. S. (2023). Transform MCMC schemes for sampling intractable factor copula models. *School of Mathematical and Statistical Sciences, ASU*. <https://www.dropbox.com/s/9nzdxbplwml8sb/Slides-Targino.pdf?dl=0>
5. Targino, R. S. (2022). Transform MCMC schemes for sampling intractable factor copula models. *Department of Statistics and Applied Probability (PSTAT), UCSB*. <https://www.dropbox.com/s/603yuetkg9sodjr/Slides-Targino.pdf?dl=0>
6. Targino, R. S. (2022). Risk Budgeting Portfolios from Simulations. *Duncan Chair Actuarial Science Research Day, UCSB*. https://www.dropbox.com/s/xomrmvececbwovu/risk_parity.pdf?dl=0
7. Targino, R. S. (2022). Risk Budgeting Portfolios from Simulations. *Research in Options (RiO), Rio de Janeiro, Brazil*. https://www.dropbox.com/s/sq092ax1xb0pqg9/risk_parity.pdf?dl=0
8. Targino, R. S. (2022). Transform MCMC schemes for sampling intractable factor copula models. *Department of Statistical Sciences, UCL, London, UK*. <https://www.dropbox.com/s/11ga78rfh19xrl6/Slides-Targino.pdf?dl=0>
9. Targino, R. S. (2022). Transform MCMC schemes for sampling intractable factor copula models. *Department of Statistical Sciences, UFRJ, Rio de Janeiro, Brazil*. <https://www.dropbox.com/s/uxm6x4mnfcq0i4/Slides-Targino.pdf?dl=0>
10. Targino, R. S. (2021). Risk Budgeting Portfolios from Simulations. *Data Science and Quantitative Strategies Reading Group (Itaú-Unibanco)*. <https://www.dropbox.com/s/5kzzbouwped2yaj/20211111.pdf?dl=0>
11. Targino, R. S. (2021). Avoiding zero probability events when computing Value at Risk allocations. *24th International Congress on Insurance: Mathematics and Economics*. https://www.dropbox.com/s/junsmax00j4nfoj/slides_Euler_Malliavin.pdf?dl=0
12. Targino, R. S. (2021). Risk Budgeting Portfolios from Simulations. *3rd Insurance Data Science Conference*. https://www.dropbox.com/s/czqfnqsu9hlwwf9/20210616_short.pdf?dl=0
13. Targino, R. S. (2021). Transform MCMC schemes for sampling intractable factor copula models. *RESIM 2021 : 13th International Workshop on Rare-Event Simulation*. https://www.dropbox.com/s/7bphf9w4h5wobdd/Slides-Targino_RESIM-May2021.pdf?dl=0
14. Targino, R. S. (2020). The economic uncertainty index: the Brazilian case, its relations with the freedom of the press and new estimation methods. *School of Economics USP-RP*. https://www.dropbox.com/s/iz7w495qe5xknzp/slides_FOTP.pdf?dl=0
15. Targino, R. S. (2020). Round table on the job market for data scientists. *3ª Semana Da Engenharia Matemática e Matemática Aplicada Da UFRJ*. <https://youtu.be/ennu0cEwBLI?t=27639>
16. Targino, R. S. (2020). Avoiding zero probability events when computing Value at Risk allocations. *One World Actuarial Research Seminar (OWARS)*. https://www.dropbox.com/s/qvas8cglqn8s16l/slides_Euler_Malliavin.pdf?dl=0

17. Targino, R. S. (2020). Understanding Economic Policy Uncertainty index using semi-automatic news classification. *Encontro Brasileiro de Estatística Bayesiana (EBEB)*, Maresias, Brazil. https://www.dropbox.com/s/lvvb6wvs230o8n9/EPU_particle_filters.pdf?dl=0
18. Targino, R. S. (2019). Understanding Economic Policy Uncertainty index using semi-automatic news classification. *École Polytechnique, Paris, France*. https://www.dropbox.com/s/1fujxpi3it6r09j/EPU_particle_filters.pdf?dl=0
19. Targino, R. S. (2019). Understanding Economic Policy Uncertainty index using semi-automatic news classification. *4th International Workshop in Financial Econometrics**, Maceió, Brazil.
20. Targino, R. S. (2019). Understanding Economic Policy Uncertainty index using semi-automatic news classification. *Escola de Séries Temporais e Econometria, Gramado, Brazil*.
21. Targino, R. S. (2019). Understanding Economic Policy Uncertainty index using semi-automatic news classification. *Workshop on Stochastic Simulation Methods in Statistics, Rio de Janeiro, Brazil*.
22. Targino, R. S. (2019). Understanding Economic Policy Uncertainty index using semi-automatic news classification. *Universidade Federal de Santa Catarina (UFSC), Florianópolis, Brazil*.
23. Targino, R. S. (2019). The Impact of the Freedom of the Press on Risk. *SIAM Conference on Financial Mathematics & Engineering, Toronto, Canada*. <https://www.dropbox.com/s/u77t1n25hk3rqop/News.pdf?dl=0>
24. Targino, R. S. (2019). The Impact of the Freedom of the Press on Risk. *Universidade Federal Do Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil*.
25. Targino, R. S. (2019). Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks. *3rd International Congress on Actuarial Science and Quantitative Finance, Manizales, Colombia*. <https://www.dropbox.com/s/zzq149agokfgqkj/RiskMargin.pdf?dl=0>
26. Targino, R. S. (2018). Prediction of the Volatility Surface with Generalized Autoregressive Score (GAS) models. *Congresso Nacional de Matemática Aplicada e Computacional (CNMAC), Campinas, Brazil*.
27. Targino, R. S. (2018). The Impact of the Freedom of the Press on Risk. *33 Foro Nacional de Estadística (FNE) y 13 Congreso Latinoamericano de Sociedades de Estadística (CLATSE), Guadalajara, Mexico*. https://www.dropbox.com/s/34rp3qqhnh8iitp/slides_FOTP.pdf?dl=0
28. Targino, R. S. (2018). The Impact of the Freedom of the Press on Risk. *Workshop in Econometrics, São Paulo, Brazil*.
29. Targino, R. S. (2018). Efficient Monte Carlo algorithms for risk allocation. *Research in Options (RiO), Rio de Janeiro, Brazil*. <https://www.youtube.com/watch?v=xm0is0DxSoE>
30. Targino, R. S. (2018). Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks. *Simpósio Nacional de Probabilidade e Estatística, São Pedro, Brazil*.
31. Targino, R. S. (2017). Realistic Risk Parity Portfolios. *3rd International Workshop in Financial Econometrics**, Arraial d'Ajuda, Brazil.
32. Targino, R. S. (2017). Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks. *31st Brazilian Mathematical Colloquium, Rio de Janeiro, Brazil*.
33. Targino, R. S. (2017). Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks. *UCT - Mid-Challenge Workshop in Financial Mathematics, Cape Town, South Africa*.
34. Targino, R. S. (2017). Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks. *Universidade Federal Do Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil*.
35. Targino, R. S. (2017). Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks. *Instituto Nacional de Matemática Pura e Aplicada, Rio de Janeiro, Brazil*.
36. Targino, R. S. (2016). Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks. *3rd Workshop on Assessment of Risk (WAR)*, São Paulo, Brazil*.
37. Targino, R. S. (2016). Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks. *Research in Options (RiO), Rio de Janeiro, Brazil*. https://www.youtube.com/watch?v=toqA3_v8Kfs&t=3961s
38. Targino, R. S. (2016). Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks. *Fundação Getulio Vargas, Rio de Janeiro, Brazil*.
39. Targino, R. S. (2016). Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks. *Cass Business School, London, United Kingdom*.
40. Targino, R. S. (2015). Sequential Monte Carlo Samplers for capital allocation under copula-dependent risk models. *Christmas Workshop on Sequential Monte Carlo and Related Methods, London, UK*.
41. Targino, R. S. (2015). Sequential Monte Carlo Samplers for capital allocation under copula-dependent risk models. *Sequential Monte Carlo Workshop**, Paris, France.
42. Targino, R. S. (2015). Sequential Monte Carlo Samplers for capital allocation under copula-dependent risk models. *Congress on Insurance: Mathematics and Economics, Liverpool, UK*.
43. Targino, R. S. (2015). Sequential Monte Carlo Samplers for capital allocation under copula-dependent risk models. *Universidade Federal Do Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil*.
44. Targino, R. S. (2014). Sequential Monte Carlo Samplers for capital allocation under copula-dependent risk models. *University of New South Wales (UNSW), Sydney, Australia*.

45. Targino, R. S. (2014). Sequential Monte Carlo Samplers for capital allocation under copula-dependent risk models. *Research Students Conference, Nottingham, United Kingdom.*
46. Targino, R. S. (2014). Sequential Monte Carlo Samplers for capital allocation under copula-dependent risk models. *Monte Carlo and Quasi Monte Carlo (MCQMC), Leuven, Belgium.*
47. Targino, R. S. (2013). Optimal exercise strategies for operational risk insurance via multiple optimal stopping times. *Universidade Federal Do Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil.*
48. Targino, R. S. (2013). *CFE-ERCIM, London, United Kingdom.*
49. Targino, R. S. (2013). *Macquarie University, Sydney, Australia.*
50. Targino, R. S. (2009). Hedging in incomplete markets using Fourier series method. *Research In Options**, Búzios, Brazil.
51. Targino, R. S. (2009). Applications of the fractional Brownian motion in finance. *XIII Brazilian School of Probability**, Maresias, Brazil.
52. Targino, R. S. (2009). Estimation of the parameters of the Heston model by Fourier series method. *13a Escola de Séries Temporais e Econometria, São Carlos, Brazil.*
53. Targino, R. S. (2009). Calibration of the Heston model by Fourier series method. *Fourth Brazilian Conference on Statistical Modelling in Insurance and Finance, Maresias, Brazil.*
54. Targino, R. S. (2008). Bayesian selection for Heston models with volatilities determined by Fourier series method. *Research In Options (RiO)*, Angra Dos Reis, Brazil.*

(*) Poster presentations.