Yuri Resende Fonseca

530 Riverside Dr, apt 1H, New York-NY, USA, 10027
+1 (646) 244-4960 | yfonseca23@gsb.columbia.edu

Links: Personal Website Google Scholar
Research interests: Machine learning, digital platforms, online optimization.

Education

PhD Candidate in Decision, Risk, and Operations — Columbia University
Learning from Optimal Actions: Theory and Empirical Analysis in Digital Platforms — *2018-present*
- Advisors: Omar Besbes, Ilan Lobel, and Fanyin Zheng

M.Sc. Mathematical Finance — Inst. for Pure and Applied Math - Brazil
Tree-Based Model for Estimating the Local Volatility Surface — *2017-2018*
- Advisor: Yuri Saporito

M.Sc and D.Sc. in Materials Science — Military Institute of Eng. - Brazil
Influence of Chemical Composition in The Properties of Zirconia Prostheses — *2014-2018*
- Advisors: Carlos Nelson Elias and Claudinei Santos

B.Sc. in Industrial Engineering — Federal University of Juiz de Fora - Brazil
Real Options and Recycling Plants Evaluation — *2009-2014*
- Advisor: Marcio Oliveira

Research

Journal Publications
- "Contextual Inverse Optimization: Offline and Online Learning." O. Besbes, Y. Fonseca, and I. Lobel. *Operations Research*, 2023.
- "ArCo: An R package to Estimate Artificial Counterfactuals." Y. Fonseca, R. Masini, M. Medeiros, and G. Vasconcelos. *R Journal* 2019.

Working Papers
- **Job Market Paper:** "Signaling Competition in Two-Sided Markets." O. Besbes, Y. Fonseca, I. Lobel, and F. Zheng. submitted to *Management Science*.
- "BooST: Boosted Smooth Trees for Estimation of Partial Effects in Non-Linear Models." Y. Fonseca, M. Medeiros, G. Vasconcelos and A. Veiga.

Peer Reviewed Conference Proceedings
- "Signaling Competition in Two-Sided Markets." O. Besbes, Y. Fonseca, I. Lobel, and F. Zheng. *Proceedings of the 24th ACM Conference on Economics and Computation (EC'23)*, page 293, 2023.
- "Statistical Learning And Inverse Problems: A Stochastic Gradient Approach." Y. Fonseca and Y. Saporito. *Advances in Neural Information Processing Systems 35* (2022): 9591-9602.
- "Online Learning From Optimal Actions." O. Besbes, Y. Fonseca, and I. Lobel. *In Conference on Learning Theory (COLT)*, pages 586–586. PMLR, 2021b.

Work in Progress
- "C-Learner: Constrained Learning for Causal Inference." T. Cai, Y. Fonseca, and H. Namkoong.
- "Machine Learning and Offline Contextual Optimization." O. Besbes, Y. Fonseca, and I. Lobel.
- "Functional Stochastic Gradient in Non-Parametric IV Estimation." Y. Fonseca, C. Lins, Y. Saporito.

Previous Publications in Materials Science
- "Relação entre os parâmetros de rugosidade 3D e a molhabilidade do titânio." G. Leite, Y. Fonseca, A. Gomes, and C. Elias. *Matéria (Rio de Janeiro)*, 25, 2020.
- "Modeling of the influence of chemical composition, sintering temperature, density, and thickness in the light transmittance of four zirconia dental prostheses." Y. Fonseca, C. Elias, S. Monteiro, H. Dos Santos, and C. Dos Santos. *Materials*, 12(16), 2529, 2019.
- "Extensiometric analysis of strain in craniofacial bones during implant-supported palatal expansion." Elias, Carlos Nelson; Jogaib, Daniel; Zanivan, Daniel; Fonseca, Yuri. *Journal of the Mechanical Behavior of Biomedical Materials*, 2017.

Selected Teaching Assistant Experience

Foundations of Stochastic Modeling - PhD 2020,2022
- Activities: Final exam, class materials for selected topics, review sessions, grading
- Terms: Spring 2020, Spring 2022. Instructor: Assaf Zeevi

Process Improvement and Growth - MBA, EMBA, MS 2022
- Activities: Grading, follow-up meetings with groups and companies, case evaluation
- Terms: Fall 2022. Instructor: Nelson Fraiman and Angela Quintero

Managerial Statistics - MBA 2020,2021
- Activities: Grading, structuring, and holding review sessions
- Terms: Fall 2020 and 2021. Instructors: Daniel Russo, Paul Glasserman

Operations Management - MBA 2020,2021
- Activities: Supporting remote sessions, grading, office hours
- Terms: Spring 2020 and 2021, Summer 2021. Instructors: Fanyin Zheng, Omar Besbes

Business Analytics II - MBA, EMBA 2019
- Activities: Supporting ML pipelines for cases, office hours, grading
- Terms: Spring, Summer and Fall 2019. Instructor: Daniel Guetta

List of Talks

Conferences
- *Signaling Competition in Two-Sided Markets*
  - (Upcoming) INFORMS annual meeting, Phoenix, 2023
  - Conference on Economics and Computation (EC'23), London, 2023
  - RMP annual conference, London, 2023
  - MSOM annual conference, Montreal, 2023
  - POMS annual conference, Orlando, 2023
  - INFORMS annual meeting, Indiana, 2022
- *Contextual Inverse Optimization: Offline and Online Learning*
  - Conference on Learning Theory (COLT'21), Boulder, 2023
  - RMP annual conference, Remote, 2021
  - MSOM annual conference, Remote, 2021
  - INFORMS annual meeting, Anaheim, 2021
- *Statistical Learning And Inverse Problems: A Stochastic Gradient Approach*
  - Advances in Neural Information Processing Systems, New Orleans, 2022

Workshops
- *Signaling Competition in Two-Sided Markets*
  - (Upcoming) Young Researchers Workshop, Cornell, 2023
  - (Upcoming) Workshop for Empirical Research in Operations Management, Philadelphia, 2023
  - Marketplace and Innovation Workshop, remote, 2023
- *Contextual Inverse Optimization: Offline and Online Learning*
  - Complex Feedback in Online Learning - ICML, Baltimore, 2022
  - (speaker, Ilan Lobel) Quantifying Uncertainty - Simons Institute, Berkeley, 2022

Invited Talks
- *Signaling Competition in Two-Sided Markets*
  - Deming Center Board Annual Meeting, New York, 2022
- *BooST: Boosted Smooth Trees for Estimation of Partial Effects in Non-Linear Models*
  - PhD class, Instructor Amit Gandhi, University of Pennsylvania - Economics Department, 2021

Projects with Industry

GetNinjas (Service Marketplace) 2022-2023

- Academic collaboration
- Activities: I worked closely with the GetNinjas's pricing team while working on my paper "Signaling Competition in Two-Sided Markets".

Development Bank of Minas Gerais - Brazil 2021

- Technical advisor
- Activities: Incorporating ML procedures in Small Businesses Scorecards.

Digital Lab - Lojas Americanas 2016-2018

- Academic collaboration and Consulting
- Activities: Pricing Optimization and Demand Forecasting for a large retail group in Brazil (+1500 stores).

Entrepreneurship

CashU 2020-present

- Role: Co-founder. Currently, I am a technical advisor in the company
- Offers financial products to Small Businesses in B2B digital platforms

ProtMat Advanced Materials 2015-present

- Role: Co-founder. Currently, I am a board member
- Develops biomaterials for the dental industry

Additional Information

Award/Honors:

- Paul & Sandra Montrone fellowship (2021) - Columbia University
- Deming Center fellowship (2021) - Columbia University
- Distinguished student (2016) - Military Institute of Engineering
- RHAE (2014) - CNPq

Packages: ArCo - Artificial Counterfactuals (click for more information).

Programming: R (advanced), Python (advanced).

Languages: Portuguese (native), English.

Ad-hoc Referee: *Operations Research*, *Econometric Reviews*

References:

Omar Besbes

- Affiliation: Decision, Risk, and Operations - Columbia University
- Email: ob2105@gsb.columbia.edu

Ilan Lobel

- Affiliation: Technology, Operations, and Statistics - New York University
- Email: ilobel@stern.nyu.edu

Fanyin Zheng

- Affiliation: Analytics and Operations - Imperial College London
- Email: f.zheng@imperial.ac.uk

Hongseok Namkoong

- Affiliation: Decision, Risk and Operations - Columbia University
- Email: namkoong@gsb.columbia.edu