

Francesco Grossetti, Ph.D.

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Address
Via Röntgen 1 20136,
Milan Italy

Francesco Grossetti, Ph.D.

Assistant Professor of Accounting Analytics and Data Science

Current Academic Positions

Sep. 2018 – Present,
Assistant Professor of Accounting Analytics and Data Science,
Department of Accounting – Bocconi University
Bocconi Institute for Data Science and Analytics (BIDSA)

My research employs computational and statistical approaches to gain insights into the behavior of companies and investors' perceptions. Specifically, I use and enhance Natural Language Processing techniques and language models to examine the impact of financial and non-financial disclosures on key financial performance. Additionally, I leverage Deep Learning-based Computer Vision methods to extract visual information from financial disclosures. Furthermore, I investigate the economic implications of Blockchain and other Distributed Ledger Systems, exploring their potential to foster novel research avenues and revolutionize accounting practices. Finally, I work on time-to-event models and their stochastic properties to study the dynamic process that generate the observable accounting information at hand.

March 11 - March 15, 2024, *Civica Visiting Assistant Professor,*
IE University

January 2024 - March 2024, *Visiting Associate Professor,*
Norwegian School of Economics

Previous Academic Positions

October 2022, *Visiting Assistant Professor,*
IE University

Feb. 2017 – Aug. 2018, *Postdoctoral Fellow with Grant,*
Department of Accounting – Bocconi University

Nov. 2013 – Jan. 2017, *Ph.D. Student – Applied and Computational Statistics,*
Department of Mathematics – Politecnico di Milano

Sep. 2011 – Mar. 2014, *Research Fellow,*
Department of Management, Economics and Industrial Engineering –
Politecnico di Milano

Apr. 2011 – July. 2011, *Account Manager,* Cubeyou

Education

2013 – 2017, Department of Mathematics – Politecnico di Milano

Doctor of Philosophy (Ph.D.) in Applied and Computational Statistics

Mining Large Administrative Databases: Efficient and Scalable Algorithms for Statistical Modeling

Advisor: Prof. Anna Maria Paganoni

May 28th – 29th 2012, Alma Graduate School – Università di Bologna

Consumer Analytics Program: Probability models for customer-base analysis

Instructors: Prof. Fader (Wharton) & Prof. Hardie (LBS)

2007 – 2010, Università degli Studi di Milano – Bicocca

MSc in Astrophysics and Space Physics

2003 – 2007, Università degli Studi di Milano – Bicocca

BSc in Physics

Teaching Experience

Director and Instructor, Department of Accounting – Bocconi University [2018 – Present]

All courses have been created and developed by myself except the SDA Bocconi course.

Current Courses

- *Big Data for Business Decisions*
(Elective – MSc in Finance, Accounting, Management, Economics, avg. 8.92/10)
- *Introduction to Blockchain*
(Elective – BSc in Computer Science, Finance, Accounting, avg. 8.95/10)
- *Computational Applications For Accounting*
(Elective – BSc in Mathematical and Computing Sciences for Artificial Intelligence, avg. 9.48/10)
- *Mastering Data for Insurance - Natural Language Processing Module*
(Custom Program @ SDA Bocconi School of Management, avg. 9.7/10)

Past Courses

- *Deep Learning for Computer Vision* (MSc in Data Science & Business Analytics).
 - *Accounting and Financial Statement Analysis Module 1* (BSc in Accounting, Finance).
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Scientific Activity

Research Grants

CIVICA Research Grant EXECML — *Using Machine Learning to Uncover Subjective Incentives in Executive Compensation*, with IE University and Stockholm School of Economics (June 2024 - May 2026).

CIVICA Faculty Short Visits Program *Optimal Benchmarking for Mutual Fund Performance Evaluation with Natural Language Processing*, IE University, Madrid, Spain (March 2024).

Bocconi Senior Researchers' Grants - Co-P.I. *Multi-modal Communication in Corporate Reporting: Combining Words and Images in Corporate Disclosure*.
9,000 € from November 2020 to November 2021

Bocconi Junior Researchers' Grants - P.I. *edgartools an Open Source Library to Efficiently Collect Financial Filings from SEC EDGAR Database*.
8,000 € from May 2019 to May 2020.

Academic Services

- I have served as a reviewer for the following journals: Journal of Accounting and Public Policy, Finance Research Letters, Journal of Business, Finance, and Accounting, International Review of Financial Analysis, Accounting Forum, and Applied Stochastic Models in Business and Industry.
- Member of the Accounting, Finance, and Control Graduate Program Committee at Bocconi University.
- Member of the Bocconi's High Performance Computing Committee.
- 41th Annual Congress of European Accounting Association: Member of the Local Organizing Committee – May 30th – June 1st 2018, Milan, Italy.

Public Software

OpTop *Optimal Topic Model Specification* [hosted at [Github](#)]: R package to detect the optimal number of topics from a pool of Latent Dirichlet Allocation models. The package implements a set of parametric tests to carry out model selection [[Lewis & Grossetti \(2022\)](#)].

msmtools *Multi-State Models Tools* [hosted at [Github](#)]: R package which implements a fast and efficient algorithm to restructure classical longitudinal database into an *augmented* format. This increments the amount of information out of data and facilitates the modeling through the companion package *msm* [Grossetti et al. (2021)].

Software Development Skills

- | | | |
|--------------------|----------|---------|
| ○ R | ○ Python | ○ Stata |
| ○ Shell (bash/zsh) | ○ SQL | ○ C |

Statistics and Computing

Publications

- *Environmental Awareness and Shareholder Proposals: The Case of the Deepwater Horizon Oil Spill Disaster*, Corporate Governance: The International Journal of Business in Society, 2023, with Carlo D'Augusta and Claudia Imperatore (DOI 10.1108/CG-03-2022-0139).
- *Risk Guidance and Anti-Corruption Language: Evidence from Corporate Codes of Conduct*, Journal of Risk Research, 1–35, 2023, with Olga Bogachev and Miles Gietzmann.
- *Words and numbers: A disagreement story from post-earnings announcement return and volume patterns*, Finance Research Letters, Vol. 54, 2023, with Antonio De Vito and Carlo D'Augusta.
- *How did Covid-19 affect investors' interpretation of earnings news? The role of accounting conservatism*. Finance Research Letters, Vol. 52, 2023, with Carlo D'Augusta.
- *Quando le immagini diventano un serbatoio di dati per le aziende*. ECONOMIA & MANAGEMENT, 4:64–68, 2022, with Paola Cillo and Gaia Rubera.
- *A Statistical Approach for Optimal Topic Model Identification*. Journal of Machine Learning Research, 23(58):1-20, 2022, with Craig Lewis.
- *Blockchain and other Distributed Ledger Technologies: where is the Accounting?* Journal of Accounting and Public Policy, 40(5), 2021, with Miles Gietzmann.
- *Hypoalbuminemia as a Marker of Protein Metabolism Disarrangement in Patients with Stable Chronic Heart Failure*. Minerva Medica, 111(3):226-238, 2020, with E. Pasini, L. Comini, F.S. Dioguardi, A. Olivares, R. Aquilani, S. Scalvini.
- *Impact of in-hospital Cardiac Rehabilitation on Mortality and Readmissions in Heart Failure: A Population Study in Lombardy Italy, from 2005 to 2012*. European Journal of Preventive Cardiology, 26(8):808-817, 2019, with S. Scalvini, A.M. Paganoni, M.T. La Rovere, R. Pedretti, M. Frigerio.
- *A multi-state approach to hospital readmissions of patients affected by chronic heart failure: the value added by administrative data*. Health Care Management Science, 21(2):281-291, 2018, with Francesca Ieva and Anna Paganoni.
- *Functional recovery after rotator cuff repair for full thickness tear: the role of biceps surgery*. Journal of Sport Rehabilitation, 1;27(1):83-93, 2018, with B. Gialanella, M. Mazza, L. Danna, L. Comini.
- *Is there any additional effect of tele-assistance on long term care programs in hypercapnic COPD patients?* Journal of Chronic Obstructive Pulmonary Disease, 3(5):576-8, 2016, with M. Vitacca, M. Paneroni, N. Ambrosino.
- *H α ³: an H α imaging survey of HI selected galaxies from ALFALFA. II. Star formation properties of galaxies in the Virgo cluster and surroundings*. Astronomy & Astrophysics, 553(A89):13, 2013, with G. Gavazzi, M. Fumagalli, M. Fossati, V. Galardo, A. Boselli, R. Giovanelli, M.P. Haynes.

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- *H α ³: an H α imaging survey of HI selected galaxies from ALFALFA. I. Catalogue in the Local Supercluster.* *Astronomy & Astrophysics*, 545(A16), 2012, with G. Gavazzi, M. Fumagalli, V. Galardo, A. Boselli, R. Giovanelli, M.P. Haynes, and S. Fabello.

Under Review Papers

- *Using Narrative Disclosures to Predict Tax Outcomes*, with O. Bogachek, P. Deméré, and A. DeVito. (revising for 2nd round submission to Review of Accounting Studies)
- *Investor Distraction and Multi-Dimensional Financial Narrative*, with M. Gietzmann and C. Lewis. (revising for 2nd round submission to Review of Accounting Studies).
- *Does the Story Matter? Putting Financial Statement Numbers into Context using XBRL Data*, with Petro Lisowsky, Elisa Casi-Eberhard and Carly Burd.

Working Papers

- *Tax-induced Share Repurchases and Corporate Investment During Covid-19*, with C. D'Augusta, and A. DeVito
- *A Small World After All? The reach and grasp of tax avoidance research network*, with A. De Vito and S. Mastrullo.
- *Do Firms Speak ESG and Do Investors Listen? Information content and market effects of mandatory non-financial disclosures*, with A. Caglio, G. Melloni, and A. Piscicella.

Books

- *Tax Avoidance Research: Exploring Networks and Dynamics of Global Academic Collaboration*, with Antonio De Vito. Scientific Monograph, Springer - SIDREA Series in Accounting and Business Administration, ISBN: 978-3-031-51764-8; DOI: <https://doi.org/10.1007/978-3-031-51765-5>).
- *Value Relevance Of Textual Characteristics — Evidence from Annual Reports of U.S. Listed Firms*, with Olga Bogachek. Scientific Monograph (revising for 3rd round submission).
- *Python for non-Pythonians: How to Win Over Programming Languages*. Egea Editore, with Gaia Rubera.

Seminars & Talks

- 2024/03: CIVICA Faculty Short Visit Seminar at IE University.
- 2023/05: 45th EAA Annual Congress 2023 at Aalto University School of Business.
- 2023/03: Research Seminar Series at Università of Padova, Italy.
- 2022/12: Research Seminar Series at Norwegian School of Economics: Narrative Disclosure and Corporate Tax Planning.
- 2022/05: 44th EAA Annual Congress 2022 at Norwegian School of Economics: Risk Disclosure and (in-)Effective Tax Planning.
- 2021/11: Financial Reporting e Mercati dei Capitali Conference at Università di Bologna - Plenary session talk: Risk Disclosure and (in-)Effective Tax Planning.
- 2020/03: Research Seminar Series at Portsmouth Business School (UK) - Invited research talk.
- 2019/08: American Accounting Association Annual Meeting (San Francisco, USA) - Invited panelist in Machine Learning: corporate reporting insights.
- 2019/07: Intelligent Information Retrieval in Accounting and Finance (Beijing, China) - When Less Is Not Necessarily More: Loosing Meaning with Dedicated Dictionaries.
- 2018/05: M. Gietzmann, F. Grossetti, C. Lewis, G. Pündrich: *Equity analyst responsiveness to the tone in MD&A filings*, 41th Annual Congress of European Accounting Association, Bocconi University, Milan, Italy.
- 2017/11: M. Gietzmann, F. Grossetti, C. Lewis, G. Pündrich: *Equity analyst responsiveness to the tone in MD&A filings*, Talent Workshop – EAA Job Market for Accounting Academics, IE Business School, Madrid.
- 2016/06: F. Grossetti, F. Ieva, A.M. Paganoni: *A multi-state approach to patients affected by chronic heart failure: the value added by administrative data*, 48th Scientific Meeting of the Italian Statistical Society University of Salerno, Italy.
- 2016/03: F. Grossetti, F. Ieva, A.M. Paganoni: *A multi-state approach to patients affected by chronic heart failure: the value added by administrative data*, 8th IMA Conference on Quantitative Modeling in the Management of Health and Social Care, London, UK.
- 2015/04: F. Grossetti and P. Zanini: *Intensive Statistical Computing with R*, StaTalks – Department of Mathematics – Università degli Studi di Milano.

Media Coverage

- *Financial Times*
 - Podcast for FT Talent Challenge: How To Navigate Blockchain (listen [here](#)).
- Il Sole 24 Ore: Blockchain, un mondo oltre le criptovalute (listen [here](#) in Italian).
- *Bocconi Network* [English]
 - Bocconi Knowledge - [Corporate Codes of Conduct Go Beyond Impression Marketing](#).
 - Bocconi Knowledge - [To Understand Financial Disclosures, Transform Words Into Numbers](#).
 - Bocconi Knowledge - [Finding the Perfect Number](#).
 - Technologies: [Blockchain among the Elective Courses for BSc Students](#).
- *Corriere Della Sera* [Italian]
 - [Democrazia e sicurezza grazie alla Blockchain? Entriamo nel futuro a...](#)
 - [Facebook cancella un miliardo di volti. Ma è davvero la fine del riconoscimento facciale?](#)
- *Other*
 - *Südtiroler Wirtschaftszeitung*: [Predicting Firms' Taxes](#).
 - *Südtiroler Wirtschaftszeitung*: [Financial Statements: What They Reveal About Firms' Risks and Prospects](#).