

Francesco Grossetti, Ph.D.

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Via Röntgen 1  
20136, Milan  
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## 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)*

*Algorand Fintech Lab (AlgoFinLab)*

*Monetary Innovation, New Technologies and Society (MINTS)*

My research mainly uses computational and statistical techniques to understand firms' behavior and investors perception. In particular, I adopt and develop Natural Language Processing methods and language models to understand the effect of financial and non-financial disclosure over key financial performance. In addition, I also use Computer Vision methods based on Deep Learning to extract the visual information from financial disclosure. Finally, I study the economic effects of Blockchain and other types of Distributed Ledger Systems and how these can facilitate the development of new streams of research together with a change in the practice of Accounting. I am an active developer of open-source tools.

### 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*

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### Education

2013 – 2017, *Department of Mathematics – Politecnico di Milano*

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

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

May 28<sup>th</sup> – 29<sup>th</sup> 2012, *Alma Graduate School – Università di Bologna*

Consumer Analytics Program: Probability models for customer-base analysis (Prof. Fader & Prof. Hardie)

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

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### Teaching Experience

*Director and Instructor, Department of Accounting – Bocconi University [2017 – Present]*

All courses are taught in English

#### Current Courses

- *Big Data for Business Decisions* (MSc in Finance, Accounting, Management, Economics).
- *Introduction to Blockchain* (BSc in Computer Science, Finance, Accounting).
- *Computational Methods in Accounting* (BSc in Mathematical and Computing Sciences for Artificial Intelligence, Accounting, Finance and Economics).
- *Mastering Data for Insurance* (Executive Education @ SDA Bocconi School of Management).

#### Past Courses

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

*Instructor, Department of Mathematics – Politecnico di Milano [2013 – 2016]*

- Introduction to Statistics and Data Processing (tailored for clinicians and medical doctors at IRCCS Salvatore Maugeri).

*Teaching Assistant, Department of Mathematics – Politecnico di Milano [2013 – 2016]*

- Statistics + Computer Labs (BSc Energetic Engineering).
  - Foundations of Statistics and Biomedical Signals + Computer Labs (BSc Biomedical Engineering).
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## Software Development Skills

- R
  - Pytorch/Tensorflow
  - Shiny
  - Linux
  - git versioning system
- Statistics and Computing*
- Python
  - Shell (bash/zsh)
  - C++
- General computer skills and softwares*
- MacOS
  - Jupyter Notebook/Lab
  - NumPy/Pandas/Scikit-learn
  - StataMP/SE
  - SQL
  - RStudio
  - LaTeX

## Scientific Activity

### Research Grants

- 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.

### Conferences

- 41<sup>th</sup> Annual Congress of European Accounting Association: Member of the Local Organizing Committee – May 30<sup>th</sup> – June 1<sup>st</sup> 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*.
- statutils** *Statistical Utilities* [hosted at [Github](#)]: R package which gathers implements an automatic model selection procedure for linear models which enables to choose only high order effects. It also comes with a tool to reduce a dataset once it has been imputed through the *mice* package.

### Publications

#### Published Papers

- *Risk Guidance and Anti-Corruption Language: Evidence from Corporate Codes of Conduct*, Journal of Risk Research (forthcoming), with Olga Bogachev and Miles Gietzmann.
- *Words and numbers: A disagreement story from post-earnings announcement return and volume patterns*, Finance Research Letters (in-press), 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, Volume 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 $\alpha$ <sup>3</sup>: an H $\alpha$  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.
- *H $\alpha$ <sup>3</sup>: an H $\alpha$  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.

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### Under Review Papers

- *Does the Story Matter? Putting Financial Statement Numbers into Context using XBRL Data*, with Petro Lisowsky, Elisa Casi-Eberhard and Carly Burd. (revising for 2nd round submission to Journal of Accounting and Economics).
- *Environmental Awareness and Shareholder Proposals: The Case of the Deepwater Horizon Oil Spill Disaster*, with C. D'Augusta and C. Imperatore. (submitted for 2nd round at Corporate Governance).
- *Investor Inattention, Financial Narrative, and Tone-Based Heuristics*, with M. Gietzmann and C. Lewis.

### Working Papers

- *Narrative Disclosure and Corporate Tax Planning*, with O. Bogachek, P. Demere, and A. DeVito
- *On the Non-Linear Relevance of Narrative Tone in MD&A Filings*, with O. Bogachek.
- *Do Firms Speak ESG and Do Investors Listen? Information content and market effects of mandatory non-financial disclosures*. with A. Caglio, A. Pisciella, and G. Melloni.

### Books

- *Python for non-Pythonians: How to Win Over Programming Languages*. Egea Editore, with G. Rubera.

### Seminars & Talks

- 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*, 41<sup>th</sup> 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*, 48<sup>th</sup> 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*, 8<sup>th</sup> 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 - 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?