

Grazia Sveva Ascione

ORCID: <https://orcid.org/0000-0002-9719-5291>

Personal website: <https://graziasveva.github.io/>

Email: grazia.ascione@polito.it

Research Interests

Economics of innovation; Economics of patents; Data Science; Natural Language Processing; Information Retrieval.

Current Position

- **Assistant Professor** at Polytechnic University of Turin, Department of Production Engineering (since January 2025)

Previous Positions

- **Postdoctoral researcher** at University of Cote d'Azur (September 2024 - December 2024)
- **Postdoctoral researcher** at University of Insubria (October 2023 - September 2024)
- **Postdoctoral researcher** at University of Bordeaux (July 2022 - June 2023)
- **Teaching assistant** at the University of Turin (2018-2022)

Education

- **2018-2022**
PhD in Economics of Innovation
University of Turin, Department Cognetti de Martiis
Thesis title: "*Essays on patent analysis*", supervised by Prof. F. Quatraro and Prof. V. Sterzi
- **2016-2018**
Master in Economic Policy
University Sorbonne Paris Cité/University of Turin
Thesis: "*American Universities: beyond a Third Mission?*"
- **2012-2015**
Bachelor of Science in Economics and Management
University Luigi Bocconi

Complementary courses and schools

- **2025**
 - "Economic Fitness & Complexity" , Centro Ricerche Enrico Fermi, June 2025, Rome
- **2024**
 - "Deep learning School" , Université Côte d'Azur, July 2024, Nice
- **2023**
 - "Machine Learning (XCS229)", organized by the Stanford School of Engineering, October-December 2023 (online)
 - "Oxford Summer School in Economic Networks", organized by the Oxford Mathematical Institute, June 26-30, 2023, Oxford
 - "Natural Language Understanding" organized by Stanford School of Engineering, February-June 2023 (online)
- **2021**
 - "Natural Language Processing for Deep Learning" organized by Stanford School of Engineering, November-February 2021 (online)
- **2019**
 - "KID 2019: Knowledge Dynamics, Industry Evolution, Economic Development" organized by Université Côte d'Azur, July 2019, Nice

Presentations at Conferences, Workshops, Schools, and Seminars

- **2025**
 - EPIP Annual Conference 2025, University of Antwerp (September 2025)
 - EPO PATLIB 2025 (*invited as EPO CodeFest finalist*, Wien (July 2025))
 - International Conference on the Science of Science and Innovation (ICSSI), Copenhagen Business School (June 2025)
- **2024**
 - 9th Summer School on Data and Algorithms for ST&I Studies, KU Leuven (September 2024)
 - Banca Intesa San Paolo- Data science division, Turin (July 2024)
 - SEEDS Summer school on Patent data analysis for economics- keynote speaker, University of Ferrara (June 2024)
- **2023**

- RISE, 6th Research on Innovation, Science and Entrepreneurship Workshop-Max-Planck-Institut. (December 2023)
- ALLIES workshop on environmental economics and innovation-Consejo Superior de Investigaciones Cientificas (CSIC). (May 2023)
- **2022**
 - EPIP 2022 - European Policy for Intellectual Property (online).
 - European Workshop of Applied Cultural Economics (EWACE) - University of Turin.
- **2021**
 - ISSI 2021- International Conference of the International Society for Scientometrics and Informetrics (online).
- **2019**
 - Workshop CERCIS (Centre for Research in Circular economy, Innovation and SMEs), University of Ferrara.
 - Workshop "Innovation and Sustainable Growth: is Circular Economy a disruptive model?", Catholic University (Milan).

Periods of Research Visits

- **October - January 2021**
University of Bordeaux, Bordeaux (France), invited by Prof. Valerio Sterzi

Computer Skills

- **Programming Languages:** Python, R, HTML, CSS, Javascript, Bash
- **Databases:** SQL (i.e. MySQL, Microsoft SQL Server), noSQL (i.e. MongoDB, Elastic)
- **Web Scraping:** BeautifulSoup (Python), Selenium (Python)
- **NLP:** nltk, gensim, spacy, Pytorch, Keras (deep-learning), Hugging Face models, tokenizers, datasets, API rest for LLMs (i.e. OpenAI API (ChatGPT))
- **Knowledge Graphs:** Neo4J, Cypher
- **Statistical Software:** R studio, SAS (SAS programmer specialist certification), Stata
- **Operating Systems:** Linux, Windows
- **Network Visualization:** Gephi, UCINET
- **Domains of Specialization:** pre-training of BERT-type language models on custom domains, feature selection, hyperparameter optimization (Optuna), text similarity

Spoken Languages

- Italian (mother tongue)
- English: C2 level
- French: B2 level

Teaching Activities

| Course | Institution | Level |
|--|---------------------------------|--|
| Technology and Innovation Management <i>Role: Professor</i> | Polytechnic University of Turin | Master's degree Year: 2025-2026 |
| Economics of New Space <i>Role: Professor</i> | Polytechnic University of Turin | Master's degree, Years (2) 2024-2025 2025-2026 |
| Sustainable Business Models <i>Role: Professor</i> | Polytechnic University of Turin | Master's degree Year: 2024-2025 |
| Machine Learning and Big Data <i>Role: Professor</i> | University of Insubria | Master's degree, Years (2): 2023-2024 2024-2025 |
| Business Analytics Lab <i>Role: TA</i> | University of Turin | Bachelor Year: 2023-2024 |
| Business Administration <i>Role: TA</i> | University of Turin | Bachelor, Years (4): 2019-2020 2020-2021 2021-2022 2022-2023 |
| Sustainability Accounting & Accountability <i>Role: TA</i> | University of Turin | Bachelor Year: 2020-2021 |

Prizes and Awards

- **EPO Code Challenge 2025**: Organized by the European Patent Office. First runner up (10'000 eur).
- **EC-GROW/2024/OP/0054 - Selected implementing aspects of the draft Regulation on Standard Essential Patents (SEPs)**: PI in tender section about defining AI solutions to check patent essentiality.

Publications

1. Ascione, G. S., Ciucci, L., Detotto, C., & Sterzi, V. (2024). University patent litigation in the United States: Do we have a problem?. *Research Policy*, 53(2), 104909.
DOI: <https://doi.org/10.1016/j.respol.2023.104909>
2. Ascione, G. S. & Vezzulli A. (2023). Leveraging NLP and web knowledge graphs to harmonize locations: a case study on US patent transactions. *World Patent Information*, 79, 102320.
DOI: <https://doi.org/10.1016/j.wpi.2024.102320>

3. Ascione, G. S., Ciucci, L., Detotto, C., & Sterzi, V. (2022). Universities involvement in patent litigation: an analysis of the characteristics of US litigated patents. *Scientometrics*, 127(12), 6855-6879. DOI: <https://doi.org/10.1007/s11192-022-04500-9>
4. Cottafava, D., Ascione, G. S., Corazza, L., & Dhir, A. (2022). Sustainable development goals research in higher education institutions: An interdisciplinarity assessment through an entropy-based indicator. *Journal of Business Research*, 151, 138-155. DOI: <https://doi.org/10.1016/j.jbusres.2022.06.050>
5. Ascione, G. S., Cuomo, F., Mariotti, N., & Corazza, L. (2021). Urban Living Labs, Circular Economy and Nature-Based Solutions: Ideation and Testing of a New Soil in the City of Turin Using a Multi-stakeholder Perspective. *Circular Economy and Sustainability*, 1(2), 545-562. DOI: <https://doi.org/10.1007/s43615-021-00011-6>

Under Review

1. Ascione, G.S., Vezzulli A. & Sterzi V. (2024) Presenting Terrorizer: an algorithm for consolidating company names in patent assignees. An application to US Patent Transactions (2005-2022). *Minor revisions in Scientometrics*. WP available at <https://arxiv.org/abs/2403.12083>

Work in Progress

1. *PatentSchema: A novel AI-powered prior art search engine leveraging LLMs and knowledge graphs*, Grazia Sveva Ascione.
2. *From scratch to silver: Creating trustworthy training data for patent-SDG classification using Large Language Models*, Grazia Sveva Ascione, Giuseppe Scellato, Federico Caviggioli & Nicolò Tamagnone <https://www.arxiv.org/abs/2509.09303>
3. *Predicting patent litigation using machine learning*, Grazia Sveva Ascione, Valerio Sterzi & Francois Maublanc
4. *The emerging role of NPE in the US market for AI patents (2005-2022)*, Grazia Sveva Ascione, Laura Ciucci, Andrea Vezzulli & Simone Vannuccini
5. *Propensity to request unitary effect for EPO granted patents*, Grazia Sveva Ascione, Catalina Martinez & Valerio Sterzi
6. *A comparative analysis of embedding models for patent similarity*, Grazia Sveva Ascione & Valerio Sterzi. <https://arxiv.org/abs/2403.16630>
7. *Patent infringement and public procurement: the effect of environmental stringency on the litigation strategies of eco-innovations*, Grazia Sveva Ascione, Francesco Quatraro & Valerio Sterzi
8. *From STEM to STEAM: the hybridization of cultural and digital skills in the cultural and creative industries*, Grazia Sveva Ascione & Massimiliano Nuccio
9. *Technological diversity to address sustainability related challenges: the contribution of patents to achieving the SDGs*, Grazia Sveva Ascione. <https://mpira.ub.uni-muenchen.de/119452>

Qualifications

- French Academic qualification as Maître de Conférences in Economics (2024-28)

References

- Andrea Vezzulli, Professor of Economics at the University of Insubria. andrea.vezzulli@uninsubria.it
- Francesco Quatraro, Professor of Economics at the University of Turin. francesco.quatraro@unito.it
- Valerio Sterzi, Professor of Economics at Bordeaux University. valerio.sterzi@u-bordeaux.fr