

## DICHIARAZIONE SOSTITUTIVA DI CERTIFICAZIONE (art 46 del D.P.R. n.445 del 28/12/2000) DICHIARAZIONE SOSTITUTIVA DELL'ATTO DI NOTORIETÀ (artt. 19 e 47 del D.P.R. n.445 del 28/12/2000)

IL SOTTOSCRITTO

DAVIDE COLLA, Codice fiscale CLLDVD92E04C665J, nato a Chivasso (TO) il 04/05/1992 e residente in Via Croce Pietra 5, Casalborgone (TO)

consapevole delle sanzioni penali, nel caso di dichiarazioni non veritiere e falsità negli atti, richiamate dall'art. 76 del D.P.R. 445/2000 e dalle leggi speciali in materia

#### DICHIARA

la veridicità del sotto riportato curriculum vitae.



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## Davide Colla

### Curriculum vitae

#### Summary

Davide Colla holds a contract as a Research Associate (RTDa) at the Department of Historical Studies, University of Turin since June 2023. In 2022, he received the PhD in Computer Science, after having received his master's degree in computer science in 2017 summa cum laude, and bachelor's degree in computer science in 2014. Member of the Artificial Intelligence group of the Department of Computer Science, and in particular the Content-Centered Computing research group.

The research activity conducted by Davide Colla is in the area of natural language processing. It has focused on the development and application of tools for the analysis of lexical semantics (development of embeddings, use of word/sense embeddings, acquisition and use of language models and transformers), knowledge representation. He has contributed and actively contributes to the development of several resources for lexical semantics and datasets for experimentation on specific tasks. As evidenced by publications and participation in projects, Davide Colla has established various interdisciplinary collaborations: he is involved in semantic extraction and annotation of events extracted from historical archival documents (Prof. Annamaria Goy and Diego Magro, Department of Computer Science, Università di Torino); language processing of patients with psychiatric disorders (Prof. Benedetto Vitiello, Department of Public Health Sciences and Pediatrics, Università di Torino); of analyzing and extracting information from emergency room access records (Dr. Marco Giustini, Istituto Superiore di Sanità, Rome); of extracting and visualizing academic filiation reports of philosophers (Profs. Guido Bonino and Paolo Tripodi, Department of Philosophy, Università di Torino); and processing of legal documents (Prof. Antonio Mastropaolo, Department of Economic and Political Sciences, Università della Valle d'Aosta; Prof. Luisa Revelli, Department of Humanities and Social Sciences, Università della Valle d'Aosta).

Scientific Publications. Davide Colla has authored papers that have appeared in conference proceedings, workshops, and international journals, and collaborates with national and international research groups (a total of 30 co-authors, based on Scopus data). He also participates in scientific review and screening for the AI and NLP communities; for which he has served as a



reviewer for various conferences and journals, including Natural Language Engineering and Journal of Experimental and Theoretical Artificial Intelligence, SIGNLL Conference on Computational Natural Language Learning, 29th International Conference on Computational Linguistics (ACL 2022), and The 61st Annual Meeting of the Association for Computational Linguistics (ALC2023).

He has collaborations with researchers from foreign universities, particularly from the University of Groningen (NL) on topics related to the study/extraction of events from textual documents, and of causal links between events (semester abroad during PhD, in 2020). He also actively participates in the research group's interdisciplinary collaborations with researchers from Italian universities (Torino: Departments of Computer Science, Law, Philosophy, Psychology, Public Health and Pediatric Sciences; Valle d'Aosta; Piemonte Orientale) research institutes (Istituto Superiore di Sanità, ASL TO3: Servizio sovrazonale di Epidemiologia) and foundations (Fondazione Istituto piemontese Antonio Gramsci), co-authors in DC publications.

Participates in **research projects** in the areas of Automatic Natural Language Processing, Information Extraction, and Text Mining (*Muoversi Meglio, MuMe,* 2018-2020), with applications in such diverse arenas as Cultural Heritage and Digital Humanities (*Turin Enhanced Philosophy Tree - TEPT, 2022-2024; Providing Rich Semantic Metadata for Historical Archives, PRiSMHA,* 2017-2019), legal (*L'accessibilità dei testi normativi come dispositivo di inclusione: studio di caso e strumenti applicativi in Valle d'Aosta, Prima parte,* 2021-2023; seconda tranche di finanziamento: *L'accessibilità dei testi normativi come dispositivo di inclusione: studio di caso e strumenti applicativi in Valle d'Aosta, Seconda parte,* 2023-2025) and medical-clinical (progetti *Analisi automatica delle cartelle di Pronto Soccorso per la prevenzione del femminicidio, ViDeS,* 2019-2022; progetto di public engagement 'PAUSE, Prevention of Assault Under Scientific Evidence, interdisciplinari per contrastare la violenza interpersonale', 2021-2022).

Davide Colla contributes to the **integrative teaching** (calls ex art. 76 and 11) prepared by the Courses of Study in Computer Science, both on basic computer science topics (Programming Languages) and research-related topics (NLP). He has been co-reporter of 10 theses (including 7 master's theses, 3 bachelor's theses and 1 master's thesis).



#### Research areas and interests

*Natural Language Processing and Computational Linguistics* (word embeddings, sense embeddings, transformer networks, word sense disambiguation, word sense induction, supersense tagging, entity linking, semantic similarity), *Knowledge Representation and Reasoning* (formal ontology, conceptual categorization), *Information Extraction and Information Retrieval* (text mining, text categorization).

#### Education, qualifications

- July 2022: PhD in Computer Science (XXXIV cycle, University of Turin);
- 2017: Master's degree in Computer Science, 110/110 cum laude (University of Turin);
- 2014: Bachelor's degree in Computer Science: 110/110 (University of Turin);
- 2011: Diploma in Computer Science, 100/100 (Istituto Tecnico Piero Calamandrei, Santhià (TO)).

#### Academic positions

- June 2023: Research Associate (RTDa)
- February 2023 May 2023: Research grant on the project "Development of technologies for semantic analysis of natural language, and for annotation, extraction, representation and visualization of information from textual documents."
- February 2022 January 2023: Research grant on the project "Actions for the prevention of interpersonal violence: development of system for the extraction, analysis and integration of information from narrative fields of emergency room reports."
- November 2017 September 2018: **Fellowship** on the PRiSMHA (Providing Rich Semantic Metadata for Historical Archives) project.



## RESEARCH ACTIVITIES AND SCIENTIFIC PUBLICATIONS

#### Scientific Publications

Complete list on IRIS APERTO: <u>https://iris.unito.it/simple-search?</u> <u>query=&location=&filter\_field=author&filter\_type=authority&filter\_value=rp6809</u> <u>3&filter\_value\_display=COLLA%2C+DAVIDE&rpp=100&sort\_by=bi\_sort\_2\_sort\_&corder=desc</u>

#### Journals

- Colla, D., Delsanto, M., & Radicioni, D. P. (2022). Semantic Coherence Dataset: Speech Transcripts. *Data in Brief*, vol.46, 108799. https://doi.org/ 10.1016/j.dib.2022.108799
- Colla, D., Delsanto, M., Agosto, M., Vitiello, B., & Radicioni, D. P. (2022). Semantic coherence markers: The contribution of perplexity metrics. *Artificial Intelligence in Medicine*, 134, 102393. <u>https://doi.org/10.1016/j.artmed.2022.102393</u>; <u>https://www.sciencedirect.com/science/article/pii/S0933365722001440</u>
- 3. Colla, D., Goy, A., Leontino, M., Magro, D., & Picardi, C. (2021). Bringing Semantics into Historical Archives with Computer-aided Rich Metadata Generation. *ACM Journal on Computing and Cultural Heritage*.
- 4. Colla, D., Goy, A., Leontino, M., & Magro, D. (2021). Wikidata Support in the Creation of Rich Semantic Metadata for Historical Archives. *Applied Sciences*, 11(10), 4378.
- 5. Mensa, E., Colla, D., Dalmasso, M., Giustini, M., Mamo, C., Pitidis, A., & Radicioni, D. P. (2020). Violence detection explanation via semantic roles embeddings. *BMC medical informatics and decision making*, 20(1), 1-13.
- 6. Colla, D., Mensa, E., & Radicioni, D. P. (2020). Sense identification data: A dataset for lexical semantics. *Data in Brief*, 32, 106267.
- Colla, D., Mensa, E., & Radicioni, D. P. (2020). Novel metrics for computing semantic similarity with sense embeddings. *Knowledge-Based Systems*, 206, 106346.
- Goy, A., Colla, D., Magro, D., Accornero, C., Loreto, F., & Radicioni, D. P. (2020). Building semantic metadata for historical archives through an ontology-driven user interface. *Journal on Computing and Cultural Heritage* (*JOCCH*), 13(3), 1-36.



9. Colla, D., Mensa, E., & Radicioni, D. P. (2020). LessLex: Linking multilingual embeddings to SenSe representations of LEXical items. Computational Linguistics, 46(2), 289-333.

#### Conference proceedings

- Colla, D., Delsanto, M., & Di Nuovo, E. (2023). ELICODE at MultiGED2023: fine-tuning XLM-RoBERTa for multilingual grammatical error detection. In *LINKÖPING ELECTRONIC CONFERENCE PROCEEDINGS* (Vol. 197, pp. 24-34). Linköping University Electronic Press.
- Mensa E., Liberatore D., Colla D., Delsanto M., Giustini M. & Radicioni D. P. (2022). Road Accidents: Information Extraction from Clinical Reports. *HC@AlxIA 2022: 1st AlxIA Workshop on Artificial Intelligence For Healthcare, November 28 – December 02, 2022, Udine.*
- Demaria R., Delsanto M., Colla D., Mensa E., Pasini E., & Radicioni D. P. (2022). Shuffling-Based Data Augmentation for Argument Mining. *Al3@AlxIA 2022: 6th Workshop on Advances in Argumentation in Artificial Intelligence, November 28 – December 02, 2022, Udine.*
- 4. A. Goy, C. Re, D. Colla, M. Leontino. Turning 1968 memories into usable texts, *Proceedings of the First International Conference on Recent Advances in Digital Humanities (RADH 2021)*, University of Bucharest, Romania, 2021
- Mensa, E., Marino, G. M., Colla, D., Delsanto, M., & Radicioni, D. P. (2021). A resource for detecting misspellings and denoising medical text data. In *CLiC-it 2020 Italian Conference on Computational Linguistics 2020* (Vol. 2769, pp. 1-7). CEUR
- D. Colla, T. Caselli, V. Basile, J. Mitrovic, and M. Granitzer (2020, December). GruPaTo at SemEval-2020 Task 12: Retraining mBERT on social media and fine-tuned offensive language models. In *Proceedings of the Fourteenth Workshop on Semantic Evaluation* (pp. 1546-1554).
- D. Colla, M. Leontino, E. Mensa, D. P. Radicioni (2019). From Sartre to Frege in three steps: A\* search for enriching semantic text similarity measures. In *Proceedings of the Sixth Italian Conference on Computational Linguistics* (pp. 131-138). CEUR.
- A. Goy, C. Accornero, D. Astrologo, D. Colla, M. D'Ambrosio, R. Damiano, M. Leontino, A. Lieto, F. Loreto, D. Magro, E. Mensa, A. Montanaro, V. Mosca, S. Musso, D. P. Radicioni and C. Re (2019). Fruitful Synergies between Computer Science, Historical Studies and Archives: The Experience in the PRiSMHA Project. In *Proceedings of the 11th*



International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management - Volume 3: KMIS, Vienna. September 2019 (pp. 225-230).

- D. Colla, E. Mensa, D. P. Radicioni and A. Lieto (2018). Conceptual abstractness: from nouns to verbs. In *Proceedings of the Fifth Italian Conference on Computational Linguistics (CLIC-IT 2018)*, Torino. December 2018 (pp. 70-75). CEUR Workshop Proceedings.
- Colla, D., Mensa, E., Radicioni, D. P., & Lieto, A. (2018). Tell me why: Computational explanation of conceptual similarity judgments. In Proceedings of the 17th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU), Special Session on Advances on Explainable Artificial Intelligence, Cadiz, Spain, June, 2018 (pp. 74-85). Springer, Cham.
- A. Goy, R. Damiano, F. Loreto, D. Magro, S. Musso, D. P. Radicioni, C. Accornero, D. Colla, A. Lieto, E. Mensa, M. Rovera, D. Astrologo, B. Boniolo and M. D'Ambrosio (2017). PRiSMHA (Providing Rich Semantic Metadata for Historical Archives): background, motivations, and challenges. In *Proceedings of the Joint Ontology Workshops 2017 Episode* 3: The Tyrolean Autumn of Ontology, Bolzano, Italy, September, 2017.
- D. Colla, E. Mensa and D. P. Radicioni (2017, November). Semantic measures for keywords extraction. In *Proceedings of AI\*IA 2017 Advances in Artificial Intelligence: XVIth International Conference of the Italian Association for Artificial Intelligence*. Bari, Italy, November, 2017 (pp. 128-140). Springer, Cham.

#### Participation in research projects

- Participation in project 'L'accessibilità dei testi normativi come dispositivo di inclusione: studio di caso e strumenti applicativi in Valle d'Aosta. Seconda parte', progetto finanziato da Fondazione CRT in collaborazione con l'Università della Valle d'Aosta. Responsabile scientifico: Prof. Antonio Mastropaolo. Erogazione RF= 2022.1796. Durata: 03.2023-06.2025.
- Participation in project "Turin Enhanced Philosophy Tree" (TEPT), project funded by Compagnia CRT in collaboration with University of Turin.
   Scientific Responsible: Prof. Guido Bonino. Candidate's role: development of algorithms for matching philosophers in the tree, based on information contained in encyclopedic triple stores (e.g., WikiData) and analysis of any fragments of works found there. Also development of the database for storing data provided by the project partners and the graphical interface for



visualizing the philosopher tree, as well as all service features for managing the database from the graphical interface. Duration: 01.10.2021-08.01.2024

- Public Engagement project "PAUSE (Prevention of Assault Under Scientific Evidence) interdisciplinari per contrastare la violenza interpersonale". Project submitted within UNITO's Call for Public Engagement 2021. Scientific Responsible: Prof. Daniele Radicioni. Candidate's role: training and use of probabilistic language models for information extraction. Duration: 01.10.2021-31.07.2023
- Project "L'accessibilità dei testi normativi come dispositivo di inclusione: studio di caso e strumenti applicativi in Valle d'Aosta", a project funded by Compagnia CRT in collaboration with the University of Valle d'Aosta. Scientific responsible: Prof. Antonio Mastropaolo. Candidate's role: development of tools for extracting information from legal documents, and elaboration of model for describing the syntactic and semantic complexity of different types of legal and regulatory texts. Duration: october 2021-08.01.2024
- Project 'Analisi automatica delle cartelle di Pronto Soccorso per la prevenzione del femminicidio', project, funded by CRT Foundation and University of Turin. Scientific responsible Prof. Daniele Radicioni.
   Candidate's role: contribution to semantic model development and system implementation for information extraction from narrative fields of clinical records. Duration: February 2020 - June 2022.
- Project "RESEARCH STUDY IN THE DEVELOPMENT OF CHATBOTS FOR THE DOMAIN OF CAR SHARING", within the project 'Muoversi Meglio' (MuMe), funded under the POR FESR 2014/2020, PI Dr. Ing. Luigi Magnanini. Candidate's role: support in the design of the architecture of a Conversational Assistant with interface functions with users of the car sharing service. Duration: from November 2018 to October 2020
- University and Compagnia di San Paolo project 'PRiSMHA: Providing Rich Semantic Metadata for Historical Archives', scientific responsible Prof. Annamaria Goy. Candidate's role: development of a model for extracting events from archival documents, from a hybrid model based on ontologies and conceptual spaces. Development of a semantic annotation system for events extracted from archival documents. Development of an alignment model between ontology developed in the context of the project and WikiData. Duration: 2017 - 2019.



# Activities in conferences, program committees, and review boards

#### Reviewer of international journals and conferences

- Reviewer for The 61st Annual Meeting of the Association for Computational Linguistics (ACL 2023) — 2023
- Reviewer for The Tenth Annual Conference on Advances in Cognitive Systems (ACS 2022) – 2022
- Reviewer for The 29th International Conference on Computational Linguistics (ACL 2022) – 2022
- Reviewer for 17th Conference of the European Chapter of the Association for Computational Linguistics (EACL 2023) - 2022
- **Reviewer** for The The SIGNLL Conference on Computational Natural Language Learning (**CoNLL 2022**) 2022
- Reviewer for The 37th ACM/SIGAPP Symposium On Applied Computing -2022
- Reviewer for Natural Language Engineering -2021
- Reviewer for the Eighth Annual Conference on Advances in Cognitive Systems – 2020
- Reviewer for the Semantic Spaces at the Intersection of NLP, Physics, and Cognitive Science - 2020
- Reviewer for the 25th International Conference on Database Systems for Advanced Applications - 2020
- Reviewer for the 31st International Conference on Tools with Artificial Intelligence - 2019
- Reviewer for the 28th ACM International Conference on Information and Knowledge Management - 2019
- Reviewer for 24th International Conference on Database Systems for Advanced Applications - 2018
- Reviewer for the Knowledge and Language Processing Track @The 34th ACM Symposium on Applied Computing - ACM SAC 2019 - 2018



#### Program committees in workshops and conferences

- PC member in the 19th International Conference on Semantic Systems (Semantics2023) - 2023
- Co-Organizer of the Shared Task 'Assessing DIScourse COherence in Italian TEXts (DisCoTeX)' at EVALITA 2023, the 8th Evaluation Campaign of NLP and Speech Tools for Italian — 2023
- PC member in Semantics, Knowledge Representation at Eighth Italian Conference on Computational Linguistics (CLIC-it) — 2021
- PC member, CONcreteness in conTEXT (CONcreTEXT) at Evaluation of NLP and Speech Tools for Italian (EVALITA) — 2020
- PC member in Semantics, Knowledge Representation at Seventh Italian Conference on Computational Linguistics (CLIC-it) — 2020

#### Presentations at conferences

- Presentation of EliCoDe at MultiGED2023: fine-tuning XLM-RoBERTa for multilingual grammatical error detection. NLP4CALL 2023: 12th Workshop on Natural Language Processing for Computer Assisted Language Learning. May 22, 2023, Tórshavn, Faroe Islands (<u>https://spraakbanken.gu.se/en/</u> <u>research/themes/icall/nlp4call-workshop-series/nlp4call2023#program</u>).
- Presentation at Third DR2 Conference in Rome 2023 (<u>https://www.di.unito.it/~colla/proofs/dr2.pdf</u>).
- Presentation Road Accidents: Information Extraction from Clinical Reports. HC@AlxIA 2022: 1st AlxIA Workshop on Artificial Intelligence For Healthcare, November 28 – December 02, 2022, Udine (<u>https://sites.google.com/</u> <u>unical.it/hcaixia2022/program-and-accepted-papers</u>).
- Presentation LessLex: Linking Multilingual Embeddings to SenSe Representations of Lexical Items (published in the Computational Linguistics Journal). 58th annual meeting of the Association for Computational Linguistics (ACL 2022), ACL 2020 in Seattle, WA, USA (<u>https://</u><u>virtual.acl2020.org/paper\_cl.1543.html</u>).
- Presentation Grupato at semeval-2020 task 12: Retraining mbert on social media and fine-tuned offensive language models. Proceedings of the Fourteenth Workshop on Semantic Evaluation, 12 December 2020 (<u>https:// semeval.github.io/semeval2020-sched.html</u>).
- Presentation From Sartre to Frege in three steps: A\* search for enriching semantic text similarity measures. In *Proceedings of the Sixth Italian*



Conference on Computational Linguistics (<u>http://clic2019.di.uniba.it/programma.html</u>).

- Presentation Evaluating the MuMe dialogue system with the IDIAL protocol. In Proceedings of the Sixth Italian Conference on Computational Linguistics (<u>http://clic2019.di.uniba.it/programma.html</u>).
- Presentation Conceptual abstractness: from nouns to verbs. In *Proceedings* of the Fifth Italian Conference on Computational Linguistics (CLIC-IT 2018), Torino. December 2018 (<u>https://clic2018.di.unito.it/it/programma-dettaglio/</u>).

#### Awards, recognition and invited talks

- Invited talk at Third DR2 Conference in Rome 2023 (<u>https://www.di.unito.it/~colla/proofs/dr2.pdf</u>)
- Invited talk at 58th annual meeting of the Association for Computational Linguistics (ACL 2022), ACL 2020 in Seattle, WA, USA to present 'LessLex: Linking Multilingual Embeddings to SenSe Representations of LEXical Items' published in the Computational Linguistics Journal, (<u>https://</u> <u>virtual.acl2020.org/paper\_cl.1543.html</u>) — 2020

#### Collaboration with external entities

- DC participated in the group activities in the research agreement between Department of Computer Science, University of Turin and SSB Progetti Srl for 'Design and implementation of conversational agent prototype for electric car reservation'. March 2018 - March 2020
- DC participated in group activities in the research agreement between the Department of Computer Science, University of Turin and the Servizio sovrazonale di Epidemiologia dell'ASL TO3, aimed at applying information extraction techniques and automatic natural language processing for the analysis of medical records and medical/clinical documents. December 2018
   December 2021

#### Other activities: work experience

 Website manager and software developer. Collaboration with the Archives of Constitutional Law and History, directed by Professors Mario Dogliani and Mario Losano, to develop software components for semantic processing and marking of legal documents within the Portal 'Archives of Constitutional



Law and History', http://dircost.di.unito.it/index.shtml (December 2016 - ongoing).

 Web designer and Website manager. Collaboration with Nuvole magazine to rework and manage www.nuvole.it, a digital magazine. The work involves, in addition to normal site management, creating tools that make articles easily publishable even by multiple users at once (December 2014 - ongoing).



## TEACHING ACTIVITIES

#### Thesis co-advisor activities

Davide Colla has been co-advisor of several theses with internal internship on topics related to his research activity, including 3 three-year internship theses in Computer Science and 7 master's theses in Computer Science and 1 master's thesis.

The following is a list of theses he followed with internal internship on topics related to his research activity.

- Thesis 'Studio della complessità testuale a partire dalla misura della perplexity dei language models', **Master's Degree** in Computer Science;
- Thesis 'Studio della complessità testuale a partire dall'analisi dei movimenti oculari', **Bachelor's Degree** in Computer Science;
- Thesis 'Strumenti per la ricomposizione dei sensi in sense inventory frammentate', **Bachelor's Degree** in Computer Science;
- Thesis 'Verso un approccio semantico profondo: utilizzo combinato di embedding contestuali e informazione sintattica nel text entailment', Master's Degree in Computer Science;
- Thesis 'Approcci dell'Elaborazione del Linguaggio Naturale per la Predizione della Psicosi', **Master's Degree** in Computer Science;
- Thesis 'Neural Supersense Tagging', Master's Degree in Computer Science;
- Thesis 'Esplorazione di Benchmark per l'NLP con Integrazione di Transformers e Applicazioni Alternative per il Textual Entailment', Master's Degree in Computer Science;
- Thesis 'Esplorazione di Benchmark per l'NLP con Integrazione di Transformers e Applicazioni Alternative per il Textual Entailment', Master's Degree in Computer Science;
- Thesis 'Data Science per la Filantropia Agenda 2030: studio pilota per un classificatore dei progetti presentati alla Fondazione CRC', Master course, level I in Analisi dei Dati per la Business Intelligence e Data Science;
- Thesis 'Denoising Emergency Room Reports: detection and correction of abbreviations, acronyms and misspellings.', Master's Degree in Computer Science;
- Thesis 'Segmentazione testuale con tecniche di analisi semantica', **Bachelor's Degree** in Computer Science.



#### Courses

 Holder of the course "Approfondimenti di Tecnologie Web", MICA\_SAA0073, undergraduate degree in Management of Information and Business Communication from the University of Turin - Department of Management -2022 (<u>https://www.di.unito.it/~colla/proofs/mica.pdf</u>). 40 hours of frontal teaching. — 2022

#### Integrative didactics

 Integrative teaching (calls ex artt. 76 e 11) on the Courses of Study in Computer Science, both on basic computer science topics (Programming Languages) and research-related topics (NLP). Academic years. Anni accademici 2018-2019, 2020-2021, 2021-2022, 2022-2023. 160 hours (4 years x 40 hours).

#### Seminars

- Invited seminar on 'LessLex and Sense Identification' within the course "Techniques for Natural Language Understanding" (Master in AI, Turin) — 2022.
- Invited seminar on 'LessLex and Sense Identification' within the course
  "Techniques for Natural Language Understanding" (Master in AI, Turin) 2021.
- Invited Seminar all'interno del Master Universitario M11033 in Analisi Dati per la Business Intelligence e Data Science, su introduzione del vector space model – 2019.
- Invited seminar on 'Sperimentazioni sul calcolo della distanza semantica fra concetti' within the course "Techniques for Natural Language Understanding" (Master in Al, Turin) — 2018.
- Invited Seminar all'interno del Master in Data Science (MADAS) presso il Collegio Carlo Alberto (Università degli Studi di Torino) sul tema 'Semantic Resources for Text Documents Processing' – 2018.



Informativa ai sensi dell'art.13 del D.Lgs 196/2003:

i dati sopra riportati sono prescritti dalle disposizioni vigenti ai fini del procedimento per il quale sono richiesti e verranno utilizzati esclusivamente per tale scopo.

Torino, 01/06/2023

FIRMA