
CURRICULUM OF SCIENTIFIC ACTIVITY

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Contents

1	Synthesis Data	1
2	Academic Activities	2
2.1	Funding	2
2.2	Education	2
2.3	Qualifications	2
2.4	International training activities	3
3	Research and Work Activities	4
3.1	Research Grants	4
3.2	Participation in the Activities of National or International Research Groups	4
3.3	Participation in European Research Projects	4
3.4	Presentations at International Conferences and Symposia	5
3.5	Presentations at National Conferences	5
3.6	Other Presentations	6
3.7	Peer Reviewing Activities	6
3.8	Organization of Scientific Events	6
3.9	Work Experiences	7
3.10	Software Libraries and Resources	7
3.11	Awards	8
4	Teaching Activity	9
4.1	Supporting Teaching	9
4.2	Co-supervision of Degree Theses	9
5	Institutional, Organizational, and Service activities	9
6	Publications	10
	International Journals (peer-reviewed)	10
	Proceedings of International Conferences	10

Proceedings of National Conferences	11
Proceedings of International Symposia	12

1 Synthesis Data

Personal Data

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2 Academic Activities

2.1 Funding

- *October 2023 - ongoing*: **PhD Scholarship** (XXXIX Cycle) funded by the Department of Information Engineering, University of Padua.

2.2 Education

- *October 2023 - ongoing*: **PhD Student in Information Engineering, Doctorate School in Information Engineering**, specialization in “Science and Technology of Information”, Cycle: XXXIX, Department of Information Engineering, University of Padua. Supervisor: Prof. G. Silvello; co-supervisor: Prof. S. Marchesin.
- *September 2020 - October 2022*: **Master Degree in Computer Engineering (Web Information and Data Engineering), University of Padua.**
Title of the thesis: “Reproducibility and Generalization of a Relation Extraction System for Gene-Disease Associations” (in English). Supervisor: Prof. G. Silvello; co-supervisor: Prof. S. Marchesin. Final evaluation: *110 cum laude*. For more information visit Bestr digital badge: <https://openbadges.bestr.it/public/assertions/XcLNAmKoRLuxGOS-ul04ow>
- *September 2017 - September 2020*: **Bachelor Degree in Computer Science Engineering, University of Padua.**
Title of the thesis: “The role of ethics in Artificial Intelligence” (In Italian. Title: “*Il ruolo dell’etica nella diffusione di sistemi intelligenti*”). Supervisor: Prof. A. Loreggia.
- *September 2012 - June 2017*: **High school degree, I.I.S. “A.Einstein” of Piove di Sacco (PD)** Scientific orientation.

2.3 Qualifications

- *January 2023*: Qualified to be admitted to the **Italian Engineering Association**.
- *July 2016*: **English Certification Level B2**, Cambridge English Level 1 Certificate in ESOL International (First Certificate in English Level B2).

2.4 International training activities

- *23 July 2024 - 26 July 2024: **Very Large Databases (VLDB) Summer School on Data Management in the Cloud**, Cluj-Napoca, Romania.*
- *25 June 2024 - 28 June 2024: **Statistics for Engineering Summer School**, Monguelfo (Welsberg-Taisten), Italy.*
- *11 June 2023 - 17 June 2023: **ISWS 2023 - The International Semantic Web Research Summer School**, Bertinoro, Italy.*
- *20 July 2022 - 25 July 2022: **ESSIR 2022 - The 13th European Summer School in Information Retrieval**, Lisbon, Portugal.*

3 Research and Work Activities

3.1 Research Grants

- *November 2022 - September 2023*: **Research grant of type A** at the Department of Information Engineering, University of Padua.
Research Topic: “*Relation extraction techniques, Ontology creation, Entity extraction and linking, Basics of gene-cancer associations.*”. Scientific supervisor: Prof. G. Silvello.

3.2 Participation in the Activities of National or International Research Groups

- *November 2022 - ongoing*: **Member** of the Information Management Systems (IMS) group coordinated by Prof. Nicola Ferro at the Department of Information Engineering, University of Padua. Research topics: Biomedical Relation Extraction, Knowledge Base Construction, Ontology Creation, and Information Retrieval.

3.3 Participation in European Research Projects

HEREDITARY (Grant Agreement no. GA 101137074, project duration: 2024 - 2027)

HEREDITARY (HetERogeneous sEmantic Data integratIon for the guT-bRain interplaY) is a project funded by the European Union’s Horizon Europe research and innovation programme. HEREDITARY aims to significantly transform the way we approach disease detection, prepare treatment response, and explore medical knowledge by building a robust, interoperable, trustworthy, and secure framework that integrates multimodal health data (including genetic data) while ensuring compliance with cross-national privacy-preserving policies. The HEREDITARY framework comprises five interconnected layers, from federated data processing and semantic data integration to visual interaction. By utilizing advanced federated analytics and learning workflows, we aim to identify new risk factors and treatment responses focusing, as exploratory use cases, on neurodegenerative and gut microbiome-related disorders. HEREDITARY is harmonizing and linking various sources of clinical, genomic, and environmental data on a large scale. (more here: <https://hereditary-project.eu/>)

Role: Member of the University of Padua research team.

BRAINTEASER (Grant Agreement no. GA 101017598, project duration: 2021 - 2024)

BRAINTEASER (BRinging Artificial INTelligence home for a better cAre of amyotrophic lateral sclerosis and multiple SclERosis) is a project funded by the European Union's Horizon Europe research and innovation programme. BRAINTEASER will integrate large clinical datasets with novel personal and environmental data collected using low-cost sensors and apps. The overarching goal is to integrate societal, environmental and human health data to develop patient stratification and disease progression models for amyotrophic lateral sclerosis and multiple sclerosis able to address the needs of personalised medicine. (more here: <https://brainteaser.health/>)

Role: Member of the University of Padua research team

EXAMODE (Grant Agreement no. 825292, project duration: 2019 - 2022)

EXAMODE (EXtreme-scale Analytics via Multimodal Ontology Discovery & Enhancement) is a project founded by the European Union's Horizon 2020 research and innovation programme (H2020). The main goals include develop weakly-supervised knowledge discovery for exascale medical data and implement extreme scale analytic tools for heterogeneous exascale multimodal and multimedia data. (more here: <https://www.examode.eu/>)

Role: Member of the University of Padua research team.

3.4 Presentations at International Conferences and Symposia

1. *Content-Based Dataset Retrieval Methods: Reproducibility of the ACORDAR Test Collection.* The 28th International Conference on Theory and Practice of Digital Libraries (TPDL 2024), Ljubljana, Slovenia, September 24-27, 2024.
2. *Building a Relation Extraction Baseline for Gene-Disease Associations: A Reproducibility Study.* Symposium on Future Directions in Information Access (FDIA 2022), July 20th, 2022, Lisbon, Portugal.

3.5 Presentations at National Conferences

1. *Publishing CoreKB Facts as Nanopublications.* 20th Italian Research Conference on Digital Libraries (IRCDL 2024), February 22nd, 2024, Brixen, Italy.
2. *An Ontology-Driven Knowledge Extraction Tool for Pathology Record Classification.* 31st Symposium on Advanced Database System (SEBD 2023), July 3rd, 2023, Galzignano Terme (Padua), Italy.

3.6 Other Presentations

1. *Extending Nanopublications: Knowledge Provenance in Practice*. Nano Session #10, 27 Febbraio 2024, online.

3.7 Peer Reviewing Activities

Review activities have been conducted for several international and national conferences from 2023 to today; The conferences where the role of member of the program committee was carried out are reported.

Program Committee Member of International Conferences and Workshops

- **The 47th European Conference on Information Retrieval (ECIR 2025):** Demonstrations and CLEF papers tracks.
- **Retrieval-Augmented Generation Enabled by Knowledge Graph (RAGE-KG @ ISWC 2024):** Member of the programme committee of the RAGE-KG workshop, co-located with ISWC 2024.
- **The 28th International Conference on Theory and Practice of Digital Libraries (TPDL 2024):** Short papers track.
- **The 46th European Conference on Information Retrieval (ECIR 2024):** Demonstrations papers track.

Program Committee Member of National Conferences

- **The 21st Conference on Information and Research Science Connecting to Digital and Library Science (IRCDL 2025):** Track 1 - Computer Science Foundations for Digital Libraries: Algorithms, Systems, and Applications.
- **The 32nd Symposium on Advanced Database Systems (SEBD 2024):** Member of the programme committee.

3.8 Organization of Scientific Events

- **Co-organizer.** The 13th Workshop on Large-Scale Biomedical Semantic Indexing and QuestionAnswering (BioASQ 2025), co-located with the 16th

Conference and Labs of the Evaluation Forum (CLEF 2025), September 9-12, 2025, Madrid, Spain. URL: http://participants-area.bioasq.org/general_information/GutBrainIE/

- **Co-organizer.** The 3rd Intelligent Disease Progression Prediction (iDPP 2024), co-located with the 15th Conference and Labs of the Evaluation Forum (CLEF 2024), September 9-12, 2024, Grenoble, France. URL: <https://brainteaser.dei.unipd.it/challenges/idpp2024/>
- **Co-organizer.** The 2nd Intelligent Disease Progression Prediction (iDPP 2023), co-located with the 14th Conference and Labs of the Evaluation Forum (CLEF 2023), September 18-21, 2023, Thessaloniki, Greece. URL: <https://brainteaser.dei.unipd.it/challenges/idpp2023/>
- **Local Organizing Committee.** The 31st Symposium on Advanced Database System (SEBD 2023), July 2-5, 2023, Galzignano Terme (Padua), Italy. URL: <https://sebd2023.dei.unipd.it/>
- **Student Volunteer.** The 26th International Conference on Theory and Practice of Digital Libraries (TPDL 2022), September 20-23, 2022, Padua, Italy. URL: <http://tpdl2022.dei.unipd.it/>

3.9 Work Experiences

- *January 2021 - June 2021:* **Online educational trainer** for the project Coding Girls of Fondazione Mondo Digitale, Rome, Italy. My objective was to teach high school students how to develop a website through the Altrivista platform.

3.10 Software Libraries and Resources

Software Libraries Open-Source Libraries for most of the published works; Software libraries where I was the principal collaborator are reported in decreasing order of publication.

- <https://github.com/mntlra/ACORDAR-retrieval> - Software for index the ACORDAR collection [4], a collection for Content-Based Dataset Retrieval.
- <https://github.com/mntlra/ACORDAR-Repro-py> - Software for downloading the content of the ACORDAR collection [4], a collection for Content-Based Dataset Retrieval.

- <https://github.com/ExaNLP/sket/> - Software to implement the second version of SKET [13], a system for automatic information extraction from non-structured medical reports.
- <https://github.com/mnt1ra/DEXTER> - Software to implement DEXTER [12], a rule-based system for Biomedical Relation Extraction.

Resources Resources (datasets and data models) publicly shared for most of the published works; Resources for which I was the principal collaborator are reported in decreasing order of publication.

- <https://zenodo.org/records/8083181> - The BRAINTEASER ALS and MS Datasets. Retrospective and prospective datasets of Amyotrophic Lateral Sclerosis (ALS) and Multiple Sclerosis (MS) patients originally used for three open evaluation challenges on Intelligent Disease Progression Prediction (iDPP), iDPP@CLEF 2022, iDPP@CLEF 2023 [8, 9], and iDPP@CLEF 2024 [5, 6] co-located with the Conference and Labs of the Evaluation Forum (CLEF).
- <https://zenodo.org/records/12789731> - The BrainTeaser Ontology (BTO) for jointly modelling both ALS and MS [1]. The complete documentation is available at: brainteaser.dei.unipd.it/ontology/.
- <https://zenodo.org/records/10409288> - Gene Cancer Status (GCS) facts generated by the CORE system serialized following the nanopublication model [11].
- <https://zenodo.org/records/7669237> - The EXAMODE ontology, for modelling diagnostic reports associated with a (series of) Whole Slide Image (WSI). The ontology enables a structured encoding of the main concepts of a diagnosis [3]. The complete documentation is available at: examode.dei.unipd.it/ontology/.

3.11 Awards

- **2023 Best Master Thesis Awards on Big Data & Data Science** for the master thesis titled *“Reproducibility and Generalization of a Relation Extraction System for Gene-Disease Associations”* assigned by the CINI Big Data Lab during the 2nd Italian Conference on Big Data and Data Science (ITADATA 2023), 11-13 September 2023, Naples, Italy.

- **Scholarship "Tina Anselmi" 2023** for the master thesis titled "*Reproducibility and Generalization of a Relation Extraction System for Gene-Disease Associations*" received on November 11th, 2023. This scholarship is established by UST CISL Venezia and funded by Umana SpA. The scholarship rewards the thesis projects female students created during their studies and encourages female students to undertake STEM degrees.
- **Scholarship for graduated students in Computer Engineering in 2022** funded by Foundation Luciano Iglesias.

4 Teaching Activity

4.1 Supporting Teaching

Academic Year 2024 - 2025

- "Graph Databases", 16 hours of supplementary teaching for the course "Graph Databases" for the master degree in Computer Engineering of the Department of Information Engineering, University of Padua.

4.2 Co-supervision of Degree Theses

Master Degree

- Manuel Barusco (mat. 2053083), Master Degree in Computer Engineering, Department of Information Engineering, University of Padua, Thesis's title: "*Towards Data-Based Search Engines for RDF Graphs: A Reproducibility Study*" (co-supervised with Prof. Gianmaria Silvello).
- Riccardo Forzan (mat. 2057453), Master Degree in Computer Engineering, Department of Information Engineering, University of Padua, Thesis's title: "*Analyzing the Impact of RDF Graph Structure on Dataset Search: A Case Study with ACORDAR*" (co-supervised with Prof. Gianmaria Silvello).

5 Institutional, Organizational, and Service activities

- **Representative of doctoral students** in the Academic Board of the PhD program at the Department of Information Engineering, University of Padua. A.Y. 2024-2025.

6 Publications

International Journals (peer-reviewed)

- [1] G. Faggioli, **L. Menotti**, S. Marchesin, A. Chiò, A. Dagliati, M. de Carvalho, M. Gromicho, U. Manera, E. Tavazzi, G. M. Di Nunzio, G. Silvello, and N. Ferro: *An Extensible and Unifying Approach to Retrospective Clinical Data Modeling: The BrainTeaser Ontology*, Journal of Biomedical Semantics 15, 16 (2024). <https://doi.org/10.1186/s13326-024-00317-y>
- [2] S. Marchesin, **L. Menotti**, F. Giachelle, G. Silvello and O. Alonso: *Building a Large Gene Expression-Cancer Knowledge Base with Limited Human Annotations*, Database: The Journal of Biological Databases and Curation, Volume 2023, baad061 (2023). <https://doi.org/10.1093/database/baad061>.
- [3] **L. Menotti**, G. Silvello, M. Atzori, S. Boytcheva, F. Ciompi, G. M. Di Nunzio, F. Fraggetta, F. Giachelle, O. Irrera, S. Marchesin, N. Marini, H. Müller, and T. Primov: *Modelling Digital Health Data: The ExaMode Ontology for Computational Pathology*, Journal of Pathology Informatics, Volume 14 (2023), 100332. <https://doi.org/10.1016/j.jpi.2023.100332>.

Proceedings of International Conferences (peer-reviewed)

- [4] **L. Menotti**, M. Barusco, R. Forzan, and G. Silvello: *Content-Based Dataset Retrieval Methods: Reproducibility of the ACORDAR Test Collection*. In Proc. of The 28th International Conference on Theory and Practice of Digital Libraries (TPDL 2024), Accepted as Findings of TPD, Lecture Notes in Computer Science, vol 15177. Springer, Cham. https://doi.org/10.1007/978-3-031-72437-4_18
- [5] G. Birolo, P. Bosoni, G. Faggioli, H. Aidos, R. Bergamaschi, P. Cavalla, A. Chiò, A. Dagliati, M. de Carvalho, G. M. Di Nunzio, P. Fariselli, J. M. García Dominguez, M. Gromicho, A. Guazzo, E. Longato, S. C. Madeira, U. Manera, S. Marchesin, **L. Menotti**, G. Silvello, E. Tavazzi, E. Tavazzi, I. Trescato, M. Vettoretti, B. Di Camillo, and N. Ferro: *Intelligent Disease Progression Prediction: Overview of iDPP@CLEF 2024*. In Experimental IR Meets Multilinguality, Multimodality, and Interaction. Proceedings of the Fourteenth International Conference of the CLEF Association (CLEF 2024). Lecture Notes in Computer Science, vol 14959. Springer, Cham. https://doi.org/10.1007/978-3-031-42448-9_24

- [6] G. Birolo, P. Bosoni, G. Faggioli, H. Aidos, R. Bergamaschi, P. Cavalla, A. Chiò, A. Dagliati, M. de Carvalho, G. M. Di Nunzio, P. Fariselli, J. M. García Dominguez, M. Gromicho, A. Guazzo, E. Longato, S. C. Madeira, U. Manera, S. Marchesin, **L. Menotti**, G. Silvello, E. Tavazzi, E. Tavazzi, I. Trescato, M. Vettoretti, B. Di Camillo, and N. Ferro: *Overview of iDPP@CLEF 2024: The Intelligent Disease Progression Prediction Challenge*. CLEF (Working Notes) 2024, CEUR Workshop Proceedings vol. 3740, pp. 1312-1331. <https://ceur-ws.org/Vol-3740/paper-122.pdf>
- [7] R. Alharbi, U. Ahmed, D. Dobriy, W. Łajewska, **L. Menotti**, M. J. Saedizade, M. Dumontier. *Exploring the Role of Generative AI in Constructing Knowledge Graphs for Drug Indications with Medical Context*. In Proc. of the 15th International SWAT4HCLS conference (SWAT4HCLS 2024), CEUR-WS Proceedings. *To appear*.
- [8] G. Faggioli, A. Guazzo, S. Marchesin, **L. Menotti**, I. Trescato, H. Aidos, R. Bergamaschi, G. Birolo, P. Cavalla, A. Chiò, A. Dagliati, M. de Carvalho, G. M. Di Nunzio, P. Fariselli, J. M. García Dominguez, M. Gromicho, E. Longato, S. C. Madeira, U. Manera, G. Silvello, E. Tavazzi, E. Tavazzi, M. Vettoretti, B. Di Camillo and N. Ferro. *Intelligent Disease Progression Prediction: Overview of iDPP@CLEF 2023*. Experimental IR Meets Multilinguality, Multimodality, and Interaction. Proceedings of the Thirteenth International Conference of the CLEF Association (CLEF 2023). Lecture Notes in Computer Science (LNCS) 14163, Springer, Heidelberg, Germany. https://doi.org/10.1007/978-3-031-42448-9_24.
- [9] G. Faggioli, A. Guazzo, S. Marchesin, **L. Menotti**, I. Trescato, H. Aidos, R. Bergamaschi, G. Birolo, P. Cavalla, A. Chiò, A. Dagliati, M. de Carvalho, G. M. Di Nunzio, P. Fariselli, J. M. García Dominguez, M. Gromicho, E. Longato, S. C. Madeira, U. Manera, G. Silvello, E. Tavazzi, E. Tavazzi, M. Vettoretti, B. Di Camillo and N. Ferro. *Overview of iDPP@CLEF 2023: The Intelligent Disease Progression Prediction Challenge*. CLEF 2023 Working Notes: Working Notes of the Conference and Labs of the Evaluation Forum (CLEF 2023). CEUR WS Proceedings vol. 3497, pp 1123-1164. <https://ceur-ws.org/Vol-3497/paper-095.pdf>.

Proceedings of National Conferences (peer-reviewed)

- [10] S. Marchesin, **L. Menotti**, F. Giachelle, G. Silvello, and O. Alonso: *Bootstrapping Gene Expression-Cancer Knowledge Bases with Limited Human Annotations*. In Proc. of The 32nd Italian Symposium on Advanced Database

Systems (SEBD 2024), CEUR Workshop Proceedings vol. 3741, pp. 163-173. <https://ceur-ws.org/Vol-3741/paper10.pdf>.

- [11] F. Giachelle, S. Marchesin, **L. Menotti**, and G. Silvello. *Publishing CoreKB Facts as Nanopublications*. In Proc. of the 20th conference on Information and Research science Connecting to Digital and Library science (IRCDL 2024). CEUR-WS Proceedings vol. 3643, pp. 16-24, Open Access, 2024. <https://ceur-ws.org/Vol-3643/paper2.pdf>.
- [12] **L. Menotti**. *Reproducibility and Generalization of a Relation Extraction System for Gene-Disease Associations*. (**Invited Extended Abstract**) In Proc. of the 2nd Italian Conference on Big Data and Data Science (ITADATA 2023), CEUR-WS Proceedings vol. 3606. <https://ceur-ws.org/Vol-3606/invited78.pdf>.
- [13] **L. Menotti**, S. Marchesin and G. Silvello. *An Ontology-Driven Knowledge Extraction Tool for Pathology Record Classification*. In Proc. of the 31st Italian Symposium on Advanced Database Systems (SEBD 2023), CEUR-WS Proceedings vol. 3478, pp. 228-238. <https://ceur-ws.org/Vol-3478/paper14.pdf>.

Proceedings of International Symposia (peer-reviewed)

- [14] **L. Menotti**. *Building a Relation Extraction Baseline for Gene-Disease Associations: A Reproducibility Study*. In Proc. of the Symposium on Future Directions in Information Access (FDIA 2022). <https://essir2022.org/fdia/papers/menotti.pdf>