

Vincenzo CUTRONA

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WORKING EXPERIENCE

June 2021 today	Researcher, UNIVERSITY OF APPLIED SCIENCES AND ARTS OF SOUTHERN SWITZERLAND (SUPSI), Lugano Researcher specializing in human-robot collaboration, Industrial Internet of Things (IIoT) applications, and Artificial Intelligence. Also contributing to European projects, often in leadership roles: Kitt4Sme , STAR , Better Factory , Circular TwAln . Some code bases publicly available: ▶ https://github.com/isteps-sps-lab/betterfactory-cognitive-hri ▶ https://gitlab-core.supsi.ch/dti-isteps/spslab/public/clawdite Java Spring Python scikit-learn nginx Maven git git-flow Docker Docker Compose
March 2021 June 2021	IT Consultant R&D, CORVALLIS SRL, Milan Member of the OpenLab team devoted to the development of a big data platform (i.e., Data Management Platform) targeted to harmonize data scattered in different data sources in the tourism domain. Mainly involved in data streaming management with ksqldb in the scope of the JEDI project. Java Spring Angular ksqldb Apache NiFi Maven git
October 2017 April 2017	Technologist, UNIVERSITY OF MILANO - BICOCCA, Milan Mainly involved in development of software for semantic annotation and integration of heterogeneous data sources as part of the EU projects eu-BusinessGraph - Enabling the European Business Graph for Innovative Data Product and Services, and EW-Shopp - Supporting Event and Weather-based Data Analytics and Marketing along the Shopper Journey. Software available at: ▶ https://github.com/UNIMIBInside/asia-backend ▶ https://github.com/UNIMIBInside/asia4j ▶ https://github.com/UNIMIBInside/conciliator ▶ https://github.com/datagraft/grafterizer-2.0 Angular git WebStorm GraphDB ArangoDB Confluence JIRA Trello Docker
November 2016 October 2016	Software Developer, TSP - TECNOLOGIE E SERVIZI PROFESSIONALI SRL, Rome Mainly involved in the analysis and development of metrics for evaluating the quality level of software documentation within the project <i>Food Social Sensor network</i> . Java Spring Hibernate Eclipse Apache Tomcat Maven git
December 2016 June 2015	Software Developer, WHATTASPOT SRL, Milan Backend and iOS developer for a social network dedicated to board sport fans. PHP MySQL Doctrine Symfony Bootstrap CSS Swift XCode git Trello Slack
March 2015	Software Developer, TSP - TECNOLOGIE E SERVIZI PROFESSIONALI SRL, Rome Mainly involved in development of ETL pipelines components within the project <i>SPAC3</i> . Java Spring Hibernate Eclipse Apache Tomcat Maven git
March 2014 September 2014	Software Developer, UNIVERSITY OF MILANO - BICOCCA, Milan Development of ServicePedia, a tool for managing services provided by the Italian Public Administration. Design of an OWL ontology that describes service contracts, using the Protegé tool. PHP MySQL Doctrine Symfony Bootstrap CSS OWL Protegé
March 2011 September 2010	Bank employee, BANCA POPOLARE DI SONDRIO, Milan Frontend activity to support the activation of pre-paid debit cards.

EDUCATION

May 2021 November 2017	PhD in Computer Science, UNIVERSITY OF MILANO - BICOCCA, Milan Research in the Semantic Web field on semantic models to support the data enrichment phases making easier the harmonization process of heterogeneous data sources. During the PhD, I was also involved in the H2020 EW-Shopp project as the main developer and maintainer of ASIA , an assisted semantic table annotation tool. I have obtained a three year scholarship from the University of Milano - Bicocca.
March 2020 November 2019	Research Visiting, CITY, UNIVERSITY OF LONDON, London Research on the combination of language models and semantic technologies to support the semantic data enrichment.

March 2017	MSc in Computer Science, UNIVERSITY OF MILANO - BICOCCA, Milan
November 2014	Career focused on data and software architectures, information retrieval, data and text mining, and information systems. Thesis on the composition and recommendation of tracks using annotated GPS data. <i>110/110 with Honors</i>
October 2014	BSc in Computer Science, UNIVERSITY OF MILANO - BICOCCA, Milan
September 2011	Career focused on programming languages (Java, C++ and C#), data management, design and analysis of algorithms, and operational research. Thesis on the design of an ontology to describe contracts of the Italian Public Administration services. <i>110/110 with Honors</i>

TEACHING EXPERIENCE

2022/23	Introduction to Software Programming (Management Engineering BSc), UNIVERSITY OF APPLIED SCIENCES AND ARTS OF SOUTHERN SWITZERLAND (SUPSI), Lugano Hands-on sessions on Java fundamentals for software programming. Introduction to Object-Oriented Software Programming (Management Engineering BSc), UNIVERSITY OF APPLIED SCIENCES AND ARTS OF SOUTHERN SWITZERLAND (SUPSI), Lugano Same course held in 2021. Industry 4.0 and the Factory of the Future (Management Engineering BSc), UNIVERSITY OF APPLIED SCIENCES AND ARTS OF SOUTHERN SWITZERLAND (SUPSI), Lugano Hands-on sessions on control logic programming for RaspberryPI and sensors. Cloud Computing (Computer Science MSc), UNIVERSITY OF MILANO - BICOCCA, Milan Introduction to Docker and Docker Compose. Hands-on sessions on containerization.
2021/22	Introduction to Object-Oriented Software Programming (Management Engineering BSc), UNIVERSITY OF APPLIED SCIENCES AND ARTS OF SOUTHERN SWITZERLAND (SUPSI), Lugano Hands-on sessions on Java fundamentals for object-oriented programming.
2018/19	Data Management (Data Science MSc), UNIVERSITY OF MILANO - BICOCCA, Milan Hands-on sessions on how to use some data management technologies, such as Neo4J, MongoDB, and ArangoDB as databases, Kafka as streaming platform, Hadoop and Spark2 as engines for large-scale data processing. Data Semantics (Data Science MSc), UNIVERSITY OF MILANO - BICOCCA, Milan Same course held in 2018.
2017/18	Data Semantics (Data Science MSc), UNIVERSITY OF MILANO - BICOCCA, Milan Lectures on tools for RDF data management. Focus on Graph DBs (Neo4J, GraphDB, Virtuoso), Semantic Web Technologies (RDF, RDFS, OWL, SPARQL), tools for the semantic Data Integration (AgreementMakerLight, LogMap, Silk, Limes).

CONFERENCES AND SEMINARS

2021	Why Table Understanding Matters, CITY, UNIVERSITY OF LONDON (REMOTE), Londra Talk about my personal experience on practical solutions to real-life semantic data integration problems. This seminar has been provided as part of the Artificial Intelligence course. https://vcutrona.github.io/uploads/202103_City_Cutrona.pdf
2020	Semantic Data Enrichment meets Neural-Symbolic Reasoning, CITY, UNIVERSITY OF LONDON, London A seminar on an experimental approach for table interpretation that relies on the neural-symbolic reasoning paradigm. https://cit-ai.net/archive/CitAI_Seminar_5Feb20_Cutrona.pdf
2017	Semantic Recommender Systems, UNIVERSITY OF MILANO - BICOCCA, Milan Seminaries about semantic recommender systems.

SKILLS

Programming Languages	Python, Java and TypeScript (<i>Proficient</i>). Swift and PHP (<i>Good</i>). C# and C++ (<i>Basic</i>)
Programming IDEs & Tools	JetBrains suite (IntelliJ Idea, PyCharm, WebStorm), Eclipse IDE, git, git flow, Maven
Application Design Framework	Angular, SpringBoot, Symfony
Container Platforms	Docker, Docker Compose
Data Analytics Platforms & Engines	KNIME, Apache Spark2
Streaming Platforms	Apache Kafka, MQTT, ksqldb
Databases & Search Engines	MySQL, PostgreSQL, MongoDB, ArangoDB, Virtuoso, ElasticSearch
Semantic Web Technologies	RDF, RDFS, OWL, SPARQL
Productivity Tools	Slack, Trello, Confluence, JIRA
OS	Ubuntu, Windows

EXTRA-CURRICULAR ACTIVITY

- I collaborated with the University of Milano - Bicocca as a Tutor (150 hours), helping students in accessing and using laboratories' computers.
- I volunteered three years in a Summer Recreation Centre located in Calolziocorte (LC).

LANGUAGES

Italian 
English 

STRENGTHS

- Team Working
- Problem Solving
- Written Communication

SELECTED PUBLICATIONS

- [1] Nora Abdelmageed, Jiaoyan Chen, Vincenzo Cutrona, Vasilis Efthymiou, Oktie Hassanzadeh, Madelon Hulsebos, Ernesto Jiménez-Ruiz, Juan Sequeda e Kavitha Srinivas. «Results of SemTab 2022». In: *Proceedings of the Semantic Web Challenge on Tabular Data to Knowledge Graph Matching, SemTab 2021, co-located with the 21st International Semantic Web Conference, ISWC 2022, Virtual conference, October 23-27, 2022*. A cura di Vasilis Efthymiou, Ernesto Jiménez-Ruiz, Jiaoyan Chen, Vincenzo Cutrona, Oktie Hassanzadeh, Juan Sequeda, Kavitha Srinivas, Nora Abdelmageed e Madelon Hulsebos. Vol. 3320. CEUR Workshop Proceedings. CEUR-WS.org, 2022, pp. 1–13. URL: <https://ceur-ws.org/Vol-3320/paper0.pdf>.
- [2] Federico Bianchi, Vincenzo Cutrona e Dirk Hovy. «Twitter-Demographer: A Flow-based Tool to Enrich Twitter Data». In: *CoRR abs/2201.10986* (2022). arXiv: [2201.10986](https://arxiv.org/abs/2201.10986). URL: <https://arxiv.org/abs/2201.10986>.
- [3] Michele Ciavotta, Vincenzo Cutrona, Flavio De Paoli, Nikolay Nikolov, Matteo Palmonari e Dumitru Roman. «Supporting Semantic Data Enrichment at Scale». In: *Technologies and Applications for Big Data Value*. A cura di Edward Curry, Sören Auer, Arne J. Berre, Andreas Metzger, María S. Pérez e Sonja Zillner. Springer, 2022, pp. 19–39. doi: [10.1007/978-3-030-78307-5_2](https://doi.org/10.1007/978-3-030-78307-5_2). URL: https://doi.org/10.1007/978-3-030-78307-5_2.
- [4] Vincenzo Cutrona, Federico Bianchi, Michele Ciavotta e Andrea Maurino. «On the composition and recommendation of multi-feature paths: a comprehensive approach». In: *Geoinformatica 23.3* (2019), pp. 353–373.
- [5] Vincenzo Cutrona, Federico Bianchi, Ernesto Jiménez-Ruiz e Matteo Palmonari. «Tough Tables: Carefully Evaluating Entity Linking for Tabular Data». In: *The Semantic Web - ISWC 2020 - 19th International Semantic Web Conference, Athens, Greece, November 2-6, 2020, Proceedings, Part II*. Vol. 12507. 2020, pp. 328–343.
- [6] Vincenzo Cutrona, Jiaoyan Chen, Vasilis Efthymiou, Oktie Hassanzadeh, Ernesto Jiménez-Ruiz, Juan Sequeda, Kavitha Srinivas, Nora Abdelmageed, Madelon Hulsebos, Daniela Oliveira e Catia Pesquita. «Results of SemTab 2021». In: *Proceedings of the Semantic Web Challenge on Tabular Data to Knowledge Graph Matching co-located with the 20th International Semantic Web Conference (ISWC 2021), Virtual conference, October 27, 2021*. A cura di Ernesto Jiménez-Ruiz, Vasilis Efthymiou, Jiaoyan Chen, Vincenzo Cutrona, Oktie Hassanzadeh, Juan Sequeda, Kavitha Srinivas, Nora Abdelmageed, Madelon Hulsebos, Daniela Oliveira e Catia Pesquita. Vol. 3103. CEUR Workshop Proceedings. CEUR-WS.org, 2021, pp. 1–12. URL: <http://ceur-ws.org/Vol-3103/paper0.pdf>.
- [7] Vincenzo Cutrona, Michele Ciavotta, Flavio De Paoli e Matteo Palmonari. «ASIA: a Tool for Assisted Semantic Interpretation and Annotation of Tabular Data». In: *Proceedings of the ISWC 2019 Satellite Tracks (Posters & Demonstrations, Industry, and Outrageous Ideas) co-located with 18th International Semantic Web Conference (ISWC 2019)*. 2019, pp. 209–212.
- [8] Vincenzo Cutrona, Flavio De Paoli, Aljaz Kosmerlj, Nikolay Nikolov, Matteo Palmonari, Fernando Perales e Dumitru Roman. «Semantically-Enabled Optimization of Digital Marketing Campaigns». In: *The Semantic Web - ISWC 2019 - 18th International Semantic Web Conference, Auckland, New Zealand, October 26-30, 2019, Proceedings, Part II*. 2019, pp. 345–362.
- [9] Vincenzo Cutrona, Gianluca Puleri, Federico Bianchi e Matteo Palmonari. «NEST: Neural Soft Type Constraints to Improve Entity Linking in Tables». In: *Further with Knowledge Graphs - Proceedings of the 17th International Conference on Semantic Systems, SEMANTICS 2017, Amsterdam, The Netherlands, September 6-9, 2021*. A cura di Mehwish Alam, Paul Groth, Victor de Boer, Tassilo Pellegrini, Harshvardhan J. Pandit, Elena Montiel-Ponsoda, Víctor Rodríguez-Doncel, Barbara McGillivray e Albert Meroño-Peñuela. Vol. 53. Studies on the Semantic Web. IOS Press, 2021, pp. 29–43. doi: [10.3233/SSW210033](https://doi.org/10.3233/SSW210033). URL: <https://doi.org/10.3233/SSW210033>.

- [10] Ernesto Jiménez-Ruiz, Oktie Hassanzadeh, Vasilis Efthymiou, Jiaoyan Chen, Kavitha Srinivas e Vincenzo Cutrona. «Results of SemTab 2020». In: *Proceedings of the Semantic Web Challenge on Tabular Data to Knowledge Graph Matching (SemTab 2020) co-located with the 19th International Semantic Web Conference (ISWC 2020), Virtual conference (originally planned to be in Athens, Greece), November 5, 2020*. Vol. 2775. 2020, pp. 1–8.
- [11] Elias Montini, Vincenzo Cutrona, Niko Bonomi, Giuseppe Landolfi, Andrea Bettoni, Paolo Rocco e Emanuele Carpanzano. «An IIoT Platform For Human-Aware Factory Digital Twins». In: *Procedia CIRP* 107 (2022). Leading manufacturing systems transformation – Proceedings of the 55th CIRP Conference on Manufacturing Systems 2022, pp. 661–667. ISSN: 2212-8271. DOI: <https://doi.org/10.1016/j.procir.2022.05.042>. URL: <https://www.sciencedirect.com/science/article/pii/S2212827122003262>.