Riccardo Tommasini

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Born 17 June 1990

EDUCATION

11/2015 – 02/2020

Doctoral Degree Cum Laude: Computer Science
Institution: Politecnico di Milano
PhD Thesis: Velocity on the Web.

2012 – 2015

Master Degree: Computer Science and Engineering
Institution: Politecnico di Milano
Master Thesis: Enabling a Systematic Comparative Research Approach for RDF Stream Processing Engines.

2019 – 2012

Bachelor Degree: Computer Science and Engineering
Institution: Politecnico di Milano

SKILLS

Languages
- Italian – Mother Tongue
- English – Full Working Proficiency
- French – Basic
- German – Basic

Programming Languages
- Java (7,8), Python – Full Working Proficiency
- Javascript, R – Intermediate
- Scheme, Haskell, Erlang, Prolog – Educational

Technologies & Frameworks
- Streaming: Esper EPL, Spark, Flin, Kafka Streams, KSQL - Full Working Proficiency
- Semantic Web: RDF, SPARQL, OWL2, R2RML, Description Logics - Full Working Proficiency
- SemWeb Tech: Jena, Ontop, RDFox, RDF4J - Full Working Proficiency
- Other: Docker, Kubernetes (basics) Git, Maven, Jupyter - Full Working Proficiency

PROFESSIONAL EXPERIENCE

October 2021 – Ongoing

Associate Professor (Maître de Conférence)
Company: INSA Lyon, France
Website: `liris.cnrs.fr/`
About: I am member of the LIRIS Lab, part of the DB Team

April 2020 – September 2021

Assistant Professor
Company: Unversity of Tartu, Estonia
Website: `https://ut.ee/`
About: I am acting (ad interim) as the Head of the Data System Group since the premature demise of Sherif Sakr.

Research Fellow
October 2019 – April 2020

Company: Unversity of Tartu, Estonia
Website: `https://ut.ee/`
About: Head of the Graph processing cluster for the BigData and System Group.

R&D Consultant
June 2019 – Ongoing

Company: Quantia Consulting, Italy
Website: `http://www.quantiaconsulting.com/`
About: I support the R&D and training activities.

R&D Consultant
June – December 2018

Company: Starcounter s.r.l.
Website: `https://starcounter.com/`
About: I am responsible for formalizing and designing an innovative solution for corporate software development.

R&D Consultant
June – February 2019

Company: Fluxedo s.r.l.
Website: `https://www.fluxedo.com/`
About: I supported the research activites with partner companies.

R&D Consultant
December 2016 – December 2017

Company: BES s.r.l.
Website: `http://www.bes-srl.it/`
About: I carried on the requirement analysis and the design of a platform for market analysis in the context of customer satisfaction.

Software Engineer
May 2014 - February 2015

Company: GolemCom
Website: `http://www.golemcom.com/en/`
About: I designed and developed a platform for decision support in the context of VoIP traffic analysis.

Research Activities & Projects

October 2022 - Ongoing

JCJC Project - ANR
Institution: LIRIS - INSA Lyon
Location: Lyon, France
Website: `https://www.niis.org/`
Project: POLYFLOW: Multimodel Streaming Data Management

June 2021 - February 2022

Research and Development Collaboration at NIIS
Institution:Nordic Institute for Interoperability Solutions
Location: Tartu, Estonia
Website: `https://www.niis.org/`
Project: Rebooting trust in the X-ROAD network

July 2020 - December 2020

Research and Development Collaboration at NIIS
Institution:Nordic Institute for Interoperability Solutions
Location: Tartu, Estonia
Website: `https://www.niis.org/`
Project: Towards Asynchronous yet non repudiable communication in X-ROAD

July 2017 - October 2017

Visiting Ph.D. Student at SKIL & KRDB
Institution: University of Trento, SKIL, & Free University of Bozen/Bolzano KRDB
Location: Bolzano/Trento, Italy
Website: `http://knoesis.org/`
Project: Ontology Based Data Access for Stream Processing Technologies

July 2016 - September 2016	Visiting Ph.D. Student at IDLab **Institution**: University of Ghent, IDLab **Location**:Gent, Belgium **Website**: `https://www.ugent.be/ea/idlab/en` **Project**: Ontology Based Event Processing
May 2015 - November 2015	Affiliate Researcher at Kno.e.sis Center **Institution**: Wright State University, Kno.e.sis Center **Location**:Dayton, Ohio (USA) **Website**: `http://knoesis.org/` **Project**: kHealth Asthma

SUPERVISION

September 21'- Ongoing	Samuele Langhi **Institution**: Lyon 1 - LIRIS **Level**: PhD **Thesis**: Continuous yet Consistent Processing of Streaming Data.
September 18'- Ongoing	Mohamed Ragab **Institution**: University of Tartu **Role**: PhD **Thesis**: Bench-Ranking: A Prescriptive Analysis Approach for Large Knowledge Graphs Query Workloads
March 20'- June '21	Carlos Ramos **Institution**: University of Tartu **Level**: Master **Thesis**: Quarser: a Graph-Aware JSON-LD Parser
July 19'- March '20	Sadig Eyvazov **Institution**: University of Tartu **Level**: Master **Thesis**: Large RDF Graph Processing onTop of Spark **Co-Advosr**: Mohamed Ragab
February 18'- December 19'	Mario Scrocca **Institution**: Politecnico di Milano **Level**: Master **Thesis**: Towards Observability with (RDF) Trace Stream Processing
February 18'- April 19'	Philippe Scorsolini **Institution**: Politecnico di Milano **Level**: Master **Thesis**: An Infrastructural View of Cascading Stream Reasoning Using Micro-Services
December 19'- July 20'	Fred Boldin **Institution**: University of Tartu **Level**: Bachelor **Thesis**: Kypher: Towards Continuous OpenCypher
December 19'- July 20'	Jonathan Karu **Institution**: University of Tartu **Level**: Bachelor **Thesis**: WebSourcing: Connecting Kafka to the Web

TEACHING

September - January 20'	Data Bases and Data Mining **Institution**: IST, INSA Lyon, France **Role**: Lecturer **Website**: `https://riccardotommasini.com/courses/2021-10-06-dbdm-insa/`
September - January 20'	Data Engineering **Institution**: University of Tartu **Role**: Lecturer **Website**: `dataengineering.training`
February - June '21	Advanced Databases **Institution**: University of Tartu **Role**: Lecturer
February - June '21 February '19- July '20 September '20 - December '20	Data System Seminars **Institution**: University of Tartu **Role**: Lecturer
November '19- January '20	Big Data Management **Institution**: University of Tartu **Role**: Lecturer
September '18- January '19 September '17 - January '18 January '17 - July '17	Principle of Programming Language **Institution**: Politecnico di Milano **Role**: Teaching Assistant **Professor**: Matteo Pradella **Website**: `home.deib.polimi.it/pradella/PL.html`
February '19 - July '19 February '18 - July '18	Knowledge Engineering **Institution**: Politecnico di Milano **Role**: Teaching Tutor **Professor**: Marco Colombetti **Website**: `http://home.dei.polimi.it/colombet/KE/`
September '18 - January '19	Middleware Technologies **Institution**: Politecnico di Milano **Role**: Teaching Assistant **Professor**: Alessandro Margara **Website**: `http://corsi.dei.polimi.it/distsys/`
March 2016 - June 2016	Interoperability and Semantic Technologies **Institution**: Politecnico di Milano **Role**: Teaching Assistant **Professor**: Emanuele Della Valle **Website**: `http://emanueledellavalle.org/Teaching/IST-2015-16.html`

Workshop, Tutorials

June 2020 - EDBT	Declarative Stream Processing Languages 2nd Edition (Tutorial) **Role**: Presenter and Organizer **Organizers**: Hojjiat Jafarpour (Confluent), Emanuele Della Valle, Sherif Sakr **Website**: `http://streaminglang.io`
June 2019 - DEBS	An Outlook on Declarative Stream Processing Languages (Tutorial) **Role**: Presenter and Organizer **Organizers**: Marco Balduini, Emanuele Della Valle, Sherif Sakr **Website**: `http://streaminglang.io`

May 2019 - WWW	**Continuous Analytics of Web Streams (Tutorial)** **Role**: Presenter and Organizer **Organizers**: Albert Bifet, Jean-Paul Calbimonte, Robin Keskisärkkä, Eva Blomqvist, Emanuele Della Valle **Website**: `http://streamreasoning.org/events/tutorial-www19`
June 2019 - ESWC	**Continuous Analytics of Linked Data Streams (Tutorial)** **Role**: Presenter and Organizer **Organizers**: Jean-Paul Calbimonte, Robin Keskisärkkä, Eva Blomqvist, Emanuele Della Valle **Website**: `http://streamreasoning.org/tutorial-eswc19`
June 2018 - ICWE	**Engineering Stream Reasoning Application (Tutorial)** **Role**: Presenter and Organizer and Organizer **Co-Organizers**: Andrea Mauri, Marco Balduini, Emanuele Della Valle, **Website**: `http://streamreasoning.org/events/wasp-icwe-2018`
October 2017 - ISWC	**StreamApp: Building Stream Reasoning Application (Tutorial)** **Role**: Presenter and Organizer **Co-Organizers**: Daniele Dell'Aglio, Emanuele Della Valle, Alessandra Mileo **Website**: `http://streamreasoning.org/events/streamapp2017`
October 2017 - DockerCon EU	**Empowering Docker with Linked Data Principles (Talk)** **Role**: Presenter **Organizers**: Docker inc. **Website)**: `https://dockercon.docker.com/watch/36JqsUpFaghzAZJaExjBKG`

Talks

April 2021)	**Stream Reasoning: The Road Ahead** **Organizers**: Daniel Alvarez-Coello **Venue**: BMW
February 2021	**Streaming All the Things** **Venue**: Playtech (Webinar) **Event**: `https://www.facebook.com/events/417428445995729/`
March 2020	**Introducing Stream Processing at Influxdata** **Organizers**: Chris Churilo **Venue**: Influxdata (Webinar) **Web)**: `https://www.influxdata.com/resources/process-continuous-streams-of-large-vo`
January 2020	**Brief history on Stream Processing** **Organizers**: Alex Tavgen **Venue**: Timeseries Meetup, Tallin **Video**: `https://www.youtube.com/watch?v=xQBCK2vz2DI`
December 2019 - Kafka Meetup Milan	**It's a Streamer World: Brief history on Stream Processing (Keynote)** **Role**: Presenter **Organizers**: Matteo Ferroni (Bottega52), Emanuele Della Valle (Polimi) **Video (italian)**: `https://youtu.be/2oPU5xg_Nbs`

SELECTED PUBLICATIONS

2023 Riccardo Tommasini, Pieter Bonte, Fabiano Spiga, and Emanuele Della Valle. *Streaming linked data: From vision to practice*. SPRINGER INTERNATIONAL PU, 1 edition, 2023

2022 Ahmed Awad, Riccardo Tommasini, Samuele Langhi, Mahmoud Kamel, Emanuele Della Valle, and Sherif Sakr. D^{2}ia: User-defined interval analytics on distributed streams. *Inf. Syst.*, 104:101679, 2022

2021 Riccardo Tommasini, Pieter Bonte, Femke Ongenae, and Emanuele Della Valle. RSP4J: an API for RDF stream processing. In Ruben Verborgh, Katja Hose, Heiko Paulheim, Pierre-Antoine Champin, Maria Maleshkova, Óscar Corcho, Petar Ristoski, and Mehwish Alam, editors, *The Semantic Web - 18th International Conference, ESWC 2021, Virtual Event, June 6-10, 2021, Proceedings*, volume 12731 of *Lecture Notes in Computer Science*, pages 565–581. Springer, 2021

2021 Sherif Sakr, Angela Bonifati, Hannes Voigt, Alexandru Iosup, Khaled Ammar, Renzo Angles, Walid G. Aref, Marcelo Arenas, Maciej Besta, Peter A. Boncz, Khuzaima Daudjee, Emanuele Della Valle, Stefania Dumbrava, Olaf Hartig, Bernhard Haslhofer, Tim Hegeman, Jan Hidders, Katja Hose, Adriana Iamnitchi, Vasiliki Kalavri, Hugo Kapp, Wim Martens, M. Tamer Özsu, Eric Peukert, Stefan Plantikow, Mohamed Ragab, Matei Ripeanu, Semih Salihoglu, Christian Schulz, Petra Selmer, Juan F. Sequeda, Joshua Shinavier, Gábor Szárnyas, Riccardo Tommasini, Antonino Tumeo, Alexandru Uta, Ana Lucia Varbanescu, Hsiang-Yun Wu, Nikolay Yakovets, Da Yan, and Eiko Yoneki. The future is big graphs: a community view on graph processing systems. *Commun. ACM*, 64(9):62–71, 2021

2021 Samuele Langhi, Riccardo Tommasini, and Emanuele Della Valle. Extending kafka streams for complex event recognition. In Xintao Wu, Chris Jermaine, Li Xiong, Xiaohua Hu, Olivera Kotevska, Siyuan Lu, Weija Xu, Srinivas Aluru, Chengxiang Zhai, Eyhab Al-Masri, Zhiyuan Chen, and Jeff Saltz, editors, *IEEE International Conference on Big Data, Big Data 2020, Atlanta, GA, USA, December 10-13, 2020*, pages 2190–2197. IEEE, 2020

2020 Mario Scrocca, Riccardo Tommasini, Alessandro Margara, Emanuele Della Valle, and Sherif Sakr. The kaiju project: enabling event-driven observability. In Julien Gascon-Samson, Kaiwen Zhang, Khuzaima Daudjee, and Bettina Kemme, editors, *DEBS '20: The 14th ACM International Conference on Distributed and Event-based Systems, Montreal, Quebec, Canada, July 13-17, 2020*, pages 85–96. ACM, 2020

2020 Emanuele Falzone, Riccardo Tommasini, and Emanuele Della Valle. Stream reasoning: From theory to practice. In Marco Manna and Andreas Pieris, editors, *Reasoning Web. Declarative Artificial Intelligence - 16th International Summer School 2020, Oslo, Norway, June 24-26, 2020, Tutorial Lectures*, volume 12258 of *Lecture Notes in Computer Science*, pages 85–108. Springer, 2020

2020 Riccardo Tommasini, Mohamed Ragab, Alessandro Falcetta, Emanuele Della Valle, and Sherif Sakr. A first step towards a streaming linked data life-cycle. In Jeff Z. Pan, Valentina A. M. Tamma, Claudia d'Amato, Krzysztof Janowicz, Bo Fu, Axel Polleres, Oshani Seneviratne, and Lalana Kagal, editors, *The Semantic Web - ISWC 2020 - 19th International Semantic Web Conference, Athens, Greece, November 2-6, 2020, Proceedings, Part II*, volume 12507 of *Lecture Notes in Computer Science*, pages 634–650. Springer, 2020

2020 Riccardo Tommasini, Sherif Sakr, Emanuele Della Valle, and Hojjat Jafarpour. Declarative languages for big streaming data. In Angela Bonifati, Yongluan Zhou, Marcos Antonio Vaz Salles, Alexander Böhm, Dan Olteanu, George H. L. Fletcher, Arijit Khan, and Bin Yang, editors, *Proceedings of the 23rd International Conference on Extending Database Technology, EDBT 2020, Copenhagen, Denmark, March 30 - April 02, 2020*, pages 643–646. OpenProceedings.org, 2020

2019 Riccardo Tommasini, Davide Calvaresi, and Jean-Paul Calbimonte. Stream reasoning agents: Blue sky ideas track. In *AAMAS*, pages 1664–1680. International Foundation for Autonomous Agents and Multiagent Systems, 2019

2019   Ahmed Awad, Riccardo Tommasini, Mahmoud Kamel, Emanuele Della Valle, and Sherif Sakr. D ˆ2 2 IA: stream analytics on user-defined event intervals. In *CAiSE*, volume 11483 of *Lecture Notes in Computer Science*, pages 346–361. Springer, 2019

2019   Pieter Bonte, Riccardo Tommasini, Filip De Turck, Femke Ongenae, and Emanuele Della Valle. C-sprite: Efficient hierarchical reasoning for rapid RDF stream processing. In *DEBS*, pages 103–114. ACM, 2019

2018   Riccardo Tommasini, Pieter Bonte, Emanuele Della Valle, Femke Ongenae, and Filip De Turck. A query model for ontology-based event processing over RDF streams. In *Knowledge Engineering and Knowledge Management - 21st International Conference, EKAW 2018, Nancy, France, November 12-16, 2018, Proceedings*, pages 439–453, 2018

2018   Riccardo Tommasini, Yehia Abo Sedira, Daniele Dell'Aglio, Marco Balduini, Muhammad Intizar Ali, Danh Le Phuoc, Emanuele Della Valle, and Jean-Paul Calbimonte. Vocals: Vocabulary and catalog of linked streams. In *International Semantic Web Conference (2)*, volume 11137 of *Lecture Notes in Computer Science*, pages 256–272. Springer, 2018

2017   Riccardo Tommasini, Emanuele Della Valle, Andrea Mauri, and Marco Brambilla. Rsplab: Rdf stream processing benchmarking made easy. In *The Semantic Web 16th International Semantic Web Conference, Vienna, Austria, October 21-25, 2017*

2017   Lorenzo Affetti, Riccardo Tommasini, Alessandro Margara, Gianpaolo Cugola, and Emanuele Della Valle. Defining the execution semantics of stream processing engines. *J. Big Data*, 4:12, 2017

2015   Riccardo Tommasini, Emanuele Della Valle, Marco Balduini, and Daniele Dell'Aglio. Heaven: A framework for systematic comparative research approach for RSP engines. In *The Semantic Web. Latest Advances and New Domains - 13th International Conference, ESWC 2016, Heraklion, Crete, Greece, May 29 - June 2, 2016, Proceedings*, pages 250–265, 2016

Reviewer Activities & PCs

Reviewer   Extended Semantic Web Conference
International Semantic Web Conference
Semantic Web Journal
Journal of Web Semantics
VLDB Journal
The Web Conference

PC Member   Extended Semantic Web Conference
International Conference on Semantic Systems
IEEE International Conference on Data Engineering
ACM Special Interest Group in Management Of Data

ADDITIONAL INFORMATION

Docker Ambassador   I am part of the Docker Ambassador Program. The goal of the program is fostering knowledge about Docker among students, organizing workshop and hackathons.

Open Source   I am an open-source supporter. Whenever is possible, I share my projects on GitHub and I attend open-source related events.

CrossFit L1 Trainer   I am a certified CrossFit trainers level one. My passion about sports made me invest some time to understand better the science behind it.