

SIMONE AGOSTINELLI CURRICULUM VITAE

Part I – General Information

Full Name	Simone Agostinelli
Citizenship	Italian
Spoken Languages	Italian (Native), English (Excellent)

Part II – Education

(II A) – Academic Achievements

Type	Year	Institution	Notes
PhD	2022	Sapienza Università di Roma	<u>PhD in Engineering in Computer Science</u> (Cycle XXXIV). <u>PhD Thesis</u> : “ <i>Generating Executable Robotic Process Automation Scripts from Unsegmented User Interface Logs</i> ”. <u>Advisor</u> : Prof. Andrea Marrella
University graduation	2018	Sapienza Università di Roma	<u>Master Degree in Engineering in Computer Science</u> . <u>Final mark</u> : 109/110. <u>Master Thesis</u> : “ <i>Applying Process Mining Techniques in a Real Healthcare Case Study</i> ”. <u>Advisor</u> : Prof. Massimo Mecella
University graduation	2015	Sapienza Università di Roma	<u>Bachelor Degree in Computer and System Engineering</u> . <u>Final mark</u> : 98/110. <u>Bachelor Thesis</u> : “ <i>Sistema di Prenotazione Posti Remoto</i> ”. <u>Advisor</u> : Prof. Francesco Quaglia

(II B) – PhD Schools

Type	Year	Institution	Notes
PhD School	2019	BISS (Bertinoro International Spring School), Bertinoro, Italy	<u>Course 1</u> : <i>Multitask learning and learning-to-learn: a statistical learning perspective</i> . <u>Course Leader</u> : Prof. Massimiliano Pontil, Istituto Italiano di Tecnologia & University College London.
			<u>Course 2</u> : <i>Software security across abstraction layers</i> . <u>Course Leader</u> : Frank Piessens - KU Leuven.
			<u>Course 3</u> : <i>Internet of Things: a data oriented approach</i> .

Course Leader: Luciano Bononi –
University of Bologna.

Part III – Appointments

(III A) – Academic Appointments

Start	End	Institution	Contract/Grant ¹	Position
02/04/2025	/	Universitas Mercatorum. Facoltà: Scienze della società e della comunicazione. Dipartimento: Ingegneria e Scienze	C4	Assistant professor - RTT (scientific disciplinary sector ING-INF/05 (IINF- 05/A)) <u>Research topics</u> : Business Process Management (BPM); Artificial Intelligence (AI), Robotic Process Automation (RPA); Human- Computer Interaction (HCI); Process Mining; Model Learning; Automated Planning in the field of BPM; Big Data Pipelines Discovery; Blockchain Technologies.
01/04/2023	31/03/2025	DIAG – Department of Computer, Control and Management Engineering	C3	Assistant professor - RTDA (scientific disciplinary sector ING-INF/05 (IINF- 05/A)) <u>Research topics</u> : Business Process Management (BPM); Artificial Intelligence (AI), Robotic Process Automation (RPA); Human- Computer Interaction (HCI); Process Mining; Model Learning; Automated Planning in the field of BPM; Big Data Pipelines Discovery; Blockchain Technologies.
01/02/2022	31/03/2023	DIAG – Department of Computer, Control and Management Engineering	C2	Post-doctoral research fellow for the research groups “ <i>Human-Computer Interaction</i> ” and “ <i>Processes, Services, and Software Engineering</i> ”. <u>Research topics</u> : Business Process Management

¹ For each Academic Appointment, the associated contracts or research grants are listed in Section (III B).

				(BPM); Robotic Process Automation (RPA); Human-Computer Interaction (HCI); Process Mining; Model Learning; Automated Planning in the field of BPM; Big Data Pipelines Discovery; Blockchain Technologies.
01/11/2018	31/01/2022	DIAG – Department of Computer, Control and Management Engineering	C1	PhD Student under the supervision of Prof. Andrea Marrella. <u>Research topics:</u> Business Process Management (BPM); Robotic Process Automation (RPA); Human-Computer Interaction (HCI); Process Mining; Model Learning; Automated Planning in the field of BPM.

(III B) – Contracts and Research Grants

ID	Start	End	Duration	Institution	Contract Type
C1	01/11/2018	31/01/2022	39 months	DIAG – Department of Computer, Control and Management Engineering - Sapienza Università di Roma	PhD Research Grant (Borsa di Studio di Dottorato)
C2	01/02/2022	31/03/2023	13 months	DIAG – Department of Computer, Control and Management Engineering - Sapienza Università di Roma	Research Grant (Assegno di Ricerca)
C3	01/04/2023	31/03/2025	24 months	DIAG – Department of Computer, Control and Management Engineering - Sapienza Università di Roma	Assistant Professor (RTDA)
C4	02/04/2025	/	/	Universitas Mercatorum. Facoltà: Scienze della società e della comunicazione. Dipartimento: Ingegneria e Scienze	Assistant Professor (RTT)

Part IV – Teaching experience

(IV A) – Teaching in Academia

Year	Institution	Lecture/Course
2023/2024	Sapienza Università di Roma PhD in Engineering in Computer Science Italian National PhD Program in Artificial Intelligence	Teacher of the PhD Course “ AI-Augmented Process Management and Mining ” (Databases – ING-INF/05 (IINF-05/A) – 20 hours).
2023/2024	Sapienza Università di Roma B.Sc. in Engineering in Management Science	Teacher of the course “ Fondamenti di Informatica ” (Databases – ING-INF/05 (IINF-05/A) – 6 out of 12 CFU).
2022/2023	Sapienza Università di Roma B.Sc. in Engineering in Computer Science	Teacher of the course “ Sistemi di Calcolo ” (Databases – ING-INF/05 (IINF-05/A) – 3 out of 9 CFU).
2022/2023	Università IUAV di Venezia, Master Social Museum and Smart Tourism	Teaching assistant (Tutor) of the course “ Archivistica e Conservazione degli Oggetti Digitali: Competenze Informatiche ” (Databases - ING-INF/05 (IINF-05/A)). Course Leader: Prof. Marco Schaerf.
2021/2022	Sapienza Università di Roma B.Sc. in Engineering in Management Science	Teaching assistant (Tutor) of the course “ Fondamenti di Informatica ” (Databases - ING-INF/05 (IINF-05/A) - 12 CFU). Course Leaders: Prof. Roberto Navigli, Prof.ssa Irene Amerini, Prof. Andrea Marrella, Prof. Federico Maria Scafoglieri.
2020/2021	Sapienza Università di Roma B.Sc. in Engineering in Management Science	Teaching assistant (Tutor) of the course “ Fondamenti di Informatica ” (Databases - ING-INF/05 (IINF-05/A) - 12 CFU). Course Leaders: Prof. Riccardo Lazzeretti, Prof.ssa Irene Amerini, Prof. Andrea Marrella, Prof. Francesco Leotta.
2019/2020	Sapienza Università di Roma B.Sc. in Engineering in Management Science	Teaching assistant (Tutor) of the course “ Fondamenti di Informatica ” (Databases - ING-INF/05 (IINF-05/A) - 12 CFU). Course Leaders: Prof. Riccardo Lazzeretti, Prof.ssa Irene Amerini, Prof. Andrea Marrella, Prof. Francesco Leotta.
2018/2019	Sapienza Università di Roma B.Sc. in Computer and System Engineering	Teaching assistant (Tutor) of the course “ Progettazione del Software ” (Databases - ING-INF/05 (IINF-05/A) - 9 CFU). Course Leaders: Prof. Massimo Mecella, Prof. Giuseppe De Giacomo.

(IV B) – Lectures and specialized seminars in Academia

Year	Institution	Lecture/Course
2024/2025	Sapienza Università di Roma M.Sc. in Engineering in Management Science	Lectures (<u>1 talk</u> on Robotic Process Automation, for 3 <i>academic hours</i>) for the course “ Process Management and Mining ” (ING-INF/05 (IINF-05/A) - 6 CFU). <u>Course Leader</u> : Prof. Andrea Marrella
2024/2025	Sapienza Università di Roma M.Sc. in Engineering in Management Science	Lecture (<u>1 talk</u> on Advanced Process Discovery Techniques, for 3 <i>academic hours</i>) for the course “ Process Management and Mining ” (ING-INF/05 (IINF-05/A) - 6 CFU). <u>Course Leader</u> : Prof. Andrea Marrella
2023/2024	Sapienza Università di Roma M.Sc. in Engineering in Management Science	Lectures (<u>2 talks</u> on Robotic Process Automation, for 5 <i>academic hours</i>) for the course “ Process Management and Mining ” (ING-INF/05 (IINF-05/A) - 6 CFU). <u>Course Leader</u> : Prof. Andrea Marrella
2023/2024	Sapienza Università di Roma M.Sc. in Engineering in Management Science	Lecture (<u>1 talk</u> on Advanced Process Discovery Techniques, for 3 <i>academic hours</i>) for the course “ Process Management and Mining ” (ING-INF/05 (IINF-05/A) - 6 CFU). <u>Course Leader</u> : Prof. Andrea Marrella
2022/2023	Cyprus University of Technology	Specialized Seminar (<u>1 talk</u> on Robotic Process Automation, for 3 <i>academic hours</i>) held in the context of DESTINI project (see “ <i>Part VI - Funding Information</i> ”)
2022/2023	Sapienza Università di Roma M.Sc. in Engineering in Management Science	Lecture (<u>1 talk</u> on Robotic Process Automation, for 3 <i>academic hours</i>) for the course “ Process Management and Mining ” (ING-INF/05 (IINF-05/A) - 6 CFU). <u>Course Leader</u> : Prof. Andrea Marrella
2021/2022	Sapienza Università di Roma M.Sc. in Engineering in Management Science	Lectures (<u>2 talks</u> on Robotic Process Automation, for 5 <i>academic hours</i>) for the course “ Process Management and Mining ” (ING-INF/05 (IINF-05/A) - 6 CFU). <u>Course Leader</u> : Prof. Andrea Marrella

(IV C) –Teaching in Industry

Start	End	Institution	Lecture/Course
13/02/2023	03/03/2023	Lazio Digital ITS Academy - Via Luigi Filippo De Magistris 13	Lecturer (Docente a contratto) for the course “ Metodologie di Analisi e Progettazione del Software (UML) ” (34 ore).

(IV D) – Theses Supervisor

Since 2018, within DIAG, Simone Agostinelli **supervised and co-supervised**:

- **7 M.sc. student** in Engineering in Management Science on the topics of business process management and process mining.
- **9 M.sc. students** in Engineering in Computer Science on the topics of business process management, robotic process automation, process mining, big data pipeline discovery, model learning, and blockchain technologies.
- **1 M.sc student** in Design, Multimedia and Visual Communication, on the topic of adaptive storytelling through automated planning.
- **1 B.sc student** in Computer and System Engineering.

Notably, **5 of them published the results of their thesis in peer-reviewed scientific conferences and journals** (see below for more details).

- **S. Agostinelli**, A. Arman, F. De Luzi, **M. Manglaviti**, M. Mecella, F. Monti. *Supporting Business Confidentiality in Coopetitive Scenarios: the B-CONFIDENT Approach in Blockchain-based Supply Chains*. Accepted for publication at the Journal of Industrial Information Integration, Elsevier, 2024.
- **S. Agostinelli**, F. De Luzi, **M. Manglaviti**, M. Mecella, F. Monti, F.M. Petriccione, M. Mesenzani, A. Pollini, A. Verioli, U. Amadio. *BinTraWine - Blockchain, Tracking and Tracing Solutions for Wine*. In: Proceedings of 35th International Conference on Advanced Information Systems Engineering (CAiSE 2023), CEUR Workshop Proceedings (Vol. 3413), pp. 44-51, Zaragoza, Spain, 16 June 2023
- **S. Agostinelli**, **M. Lupia**, A. Marrella, M. Mecella. *Reactive Synthesis of Software Robots in RPA from User Interface Logs*. In: Computers in Industry (ISSN 0166-3615), Volume 142, Elsevier, 2022.
- **S. Agostinelli**, G. Acitelli, **M. Capece**, M. Mecella. *A Human-in-the-Loop Approach to Support the Segments Compliance Analysis*. In: Proceedings of the Robotic Process Automation (RPA) Forum, held as part of the 20th International Conference on Business Process Management (BPM 2022), Springer (Vol. 459 LNBP), pp. 200-214, Münster, Germany, 11-16 September 2022.
- **S. Agostinelli**, G. Bergami, **A. Fiorenza**, F.M. Maggi, A. Marrella, F. Patrizi. *Discovering Declarative Process Model Behavior from Event Logs via Model Learning*. In: Proceedings of the 3rd International Conference on Process Mining (ICPM 2021), pp. 48-55, Eindhoven, 31 October - 4 November 2021.
- **S. Agostinelli**, **M. Lupia**, A. Marrella, M. Mecella. *SmartRPA: A Tool to Reactively Synthesize Software Robots from User Interface Logs*. In: Proceedings of the 33rd International Conference on Advanced Information Systems Engineering (CAiSE 2021 Forum), Springer (Volume 424 LNBP), pp. 137-145, Melbourne, Australia, 28 June - 2 July 2021.
- **S. Agostinelli**, **M. Lupia**, A. Marrella, M. Mecella. *Automated Generation of Executable RPA Scripts from User Interface Logs*. In: Proceedings of 18th International Conference on Business Process Management (BPM 2020) – Robotic Process Automation (RPA) Forum, Springer (Vol 393 LNBP), pp. 116-131, Seville, Spain, 13-18 September 2020. **Selected among the best papers of the RPA Forum**
- **S. Agostinelli**, **F. Battaglini**, T. Catarci, F. dal Falco, A. Marrella. *Generating Personalized Narrative Experiences in Interactive Storytelling through Automated Planning*. In: Proceedings of the Biannual Conference of the Italian SIGCHI Chapter (CHIItaly 2019), Padua, Italy, 23-25 September 2019.

Part V – Scientific Awards and Society Memberships

Year Title

2023	Best PhD Dissertation Award at the prestigious BPM 2023 conference (21st International Conference on Business Process Management [CORE A] [GII-GRIN A])
2019	Best Forum Paper Award at the prestigious CAiSE 2019 conference (31st International Conference on Advanced Information Systems Engineering [CORE A] [GII-GRIN A]) for the paper: <i>“Achieving GDPR Compliance of BPMN Process Models”</i> .

Part VI – Funding Information [grants as PI-principal investigators or I-investigator]

Year	Title	Program	Role	Grant value
2023-2026	FAIR – <i>“Future Artificial Intelligence Research”</i>	The aim of the (PNRR) FAIR project is to characterize the various qualities of interest for AI-based systems, including their measurability, evaluation, and certifiability, across all components of artificial intelligence, including perception, action, learning, modeling, reasoning, and planning.	Participant	/
2022-2023	BINTRAWINE – <i>“Blockchain, Tracking and Tracing solutions for Wine”</i>	The goal of the project is to apply blockchain solutions to the wine supply chain in trustless contexts.	Technical Manager	Financing to Sapienza: 40.000 €
2021-2023	DATA CLOUD – <i>“Enabling the Big Data Pipelines in the Computing Continuum”</i>	The vision of the project is the creation of a novel paradigm for Big Data pipeline processing over heterogeneous resources encompassing the Computing Continuum, covering the complete lifecycle of managing Big Data pipeline.	Participant	Funding from EU: 4.999.996 €. Financing to Sapienza: 433.751 €
2020-2022	DESTINI – <i>“Smart Data Processing and Systems of Deep Insight”</i>	The aim of DESTINI is to facilitate the transfer of scientific knowledge and expertise, as well as of best research practices from the leading institutions to the Cyprus University of Technology.	Participant	Funding from EU: 799.267,50 €. Financing to Sapienza: 166.222,50 €
2019-2020	K4G – <i>“Knowledge for Giustizia”</i>	The main objective of the project is to study, analyze and define a system that allows the management of administrative and support processes of the Department of Justice Affairs.	Participant	Financing to Sapienza: 100.000 €

Part VII – Research Activities

The **research activity** of Simone Agostinelli concerns **theoretical, methodological, and practical aspects** in different areas of **Computer Science**, including Business Process Management (BPM); Artificial Intelligence (AI); Robotic Process Automation (RPA); Human-Computer Interaction (HCI); Process Mining; Model Learning; Automated Planning in the field of BPM; Big Data Pipelines Discovery; and Blockchain Technologies. Such topics are challenged in the application domains of smart manufacturing, IoT-based environments, and healthcare.

Simone Agostinelli is a member of the **Human-Computer Interaction research group** and the **Processes, Services, and Software Engineering research group** at the Dipartimento di Ingegneria Informatica Automatica e Gestionale Antonio Ruberti - Sapienza Università di Roma.

His main research accomplishments in all the areas of interest are summarized below (see “*Part IX - Publications*” for a fully comprehensive list of publications, together with the respective publication venues).

Keywords	Brief Description
Robotic Process Automation	Robotic Process Automation (RPA) is a maturing technology in the field of Business Process Management (BPM) that creates software (SW) robots to partially or fully automate rule-based and repetitive tasks (or simply routines) performed by human users in their applications’ user interfaces (UIs). RPA tools are able to capture in dedicated UI logs the execution of many routines of interest. A UI log consists of user actions that are mixed in some order that reflects the particular order of their execution by the user, thus potentially belonging to different routines. Moreover, when considering state-of-the-art RPA technology, it becomes apparent that the current generation of RPA tools is driven by predefined rules and manual configurations made by expert users rather than automated techniques [N3, W3, W4, W6]. Towards this direction, in his PhD Thesis [T1] the research of Simone Agostinelli tries to mitigate the involvement of skilled human experts through the development of: 1) an interactive approach to the automated segmentation of UI logs (i.e., the challenge to automatically understand which user actions contribute to which routines inside a UI log) [B2, C5, C7, C10, C11], and 2) the SmartRPA approach [C4, C9, C12] to the automated identification of the variation points of a routine, to enable the selection of the most suitable routine variants to be implemented with an SW robot directly from a UI log, thus skipping completely the manual modeling activity of the flowchart diagrams. [C12] <u>was selected among the best papers</u> of the RPA forum of the 18th International Conference on Business Process Management (BPM 2020). An extension of the paper has been published in the prestigious Journal of <i>Computers in Industry</i> [J3]. The PhD Thesis [T1] of Simone Agostinelli won the <u>Best PhD Dissertation Award</u> at the 21st International Conference on Business Process Management (BPM 2023). A revised version of the PhD Dissertation has been published by Springer in [B1]. More recent research has been conducted in two different directions: (i) in [J5], we proposed an unsupervised segmentation technique that exploits time series data mining for segmenting a UI log without knowing a priori the structure of the routine. We consider this contribution as an important step towards the development of a more complete and unsupervised technique for the segmentation of UI logs that works also in an high-noise setting; (ii) in [U3], SmartRPA has been extended with a screenshot-based task mining framework for disclosing the drivers behind variable human actions.
<i>Automated Segmentation of User Interface Logs</i>	
<i>Automated generation of executable RPA scripts</i>	

Business Process Management	Business Process Management (BPM) is an active research area that is based on the observation that each product and/or service that a company provides to the market is the outcome of a number of activities performed. Business Processes (BPs) are key to organizing such activities and understanding their interrelationships. Specifically, in the context of Business Process Modeling, the research of Simone Agostinelli was twofold: (i) investigating design-time approaches to model BPs in a way that will result more resilient at run-time from a data-aware perspective [C6] and (ii) providing an analysis of the main privacy constraints in GDPR (General Data Protection Regulation) and propose a set of design patterns to capturing and integrating such constraints in BP models using BPMN (Business Process Modeling Notation) as modeling notation [C14]. [C14] <u>received the Forum Award</u> at the 31st International Conference on Advanced Information Systems Engineering (CAiSE 2019). An extension of the work [U4] is currently under review at the prestigious Journal of Information Systems. Also, in the context of Business Process Simulation, the research of Simone Agostinelli attempted to increase the degree of context-awareness in Industry 4.0 production planning tools, empowering the human expert role as a decision-maker. To this end, a context-aware framework was developed that automatically creates a digital model of the production based on the most up-to-date production data and produces many production planning simulations to support the decision-making activity [C2]. Shifting the attention to AI-augmented Business Process Management Systems (ABPMSs), which is a class of process-aware information systems infused with AI, the research of Simone Agostinelli contributed with: (i) a classification framework that identifies to which trustworthy AI principles the ABPMS lifecycle stages should conform [W2], and (ii) an end-to-end execution of a real-world BP in the logistics domain to illustrate how an ABPMS can increase BP automation compared to a traditional BPMS [W1].
<i>Business Process Modeling</i>	
<i>Process Resilience</i>	
<i>GDPR Compliance of Business Process Models</i>	
<i>Business Process Simulation</i>	
<i>Trust in AI-augmented Business Process Managements Systems</i>	

Process Mining	Process mining is about extracting knowledge from event logs commonly available in today's information systems. These techniques provide new means to discover, monitor, and improve processes in a variety of application domains. On this topic, Simone Agostinelli conducted a real case study in San Carlo di Nancy hospital in Rome (Italy) to apply process mining in the healthcare domain [J4]. Process mining techniques are here used to infer meaningful knowledge about the patient care flows from raw event logs consisting of clinical data stored by the hospital information systems. The results of the proposed case study show that process mining provided useful insights for the governance of the hospital. Simone Agostinelli has also investigated automated process discovery techniques. These techniques take as input event logs and produce a business process model as output that captures the control-flow relations between tasks that are described by the event log. In this setting, he provided a systematic comparative evaluation of existing implementations of automated process discovery methods with domain experts by using a real-life event log extracted from an international software engineering company on the basis of four quality metrics: <i>understandability</i>, <i>correctness</i>, <i>precision</i>, and <i>usefulness</i> [C13]. The evaluation results highlight gaps and unexplored trade-offs in the field and allow researchers to improve the lack of automated process discovery methods in terms of the usability of process discovery techniques in the industry.
<i>Process Mining in Healthcare</i>	
<i>Automated Process Discovery</i>	

Model Learning <i>Discovering Declarative Process Model Behavior via Model Learning</i>	Model Learning (ML) refers to a group of test-based and counterexample-driven algorithms conceived for learning the models of black-box hardware (HW) and software (SW) systems. Examples of learned models are deterministic finite state automata (DFAs), state charts, and Mealy machines. In the field of BPM, declarative business process (BP) models define the behavior of BPs as a set of temporal constraints, which can be summarized as a DFA. Declarative BP discovery aims at inferring such constraints from event logs. To this aim, it requires as additional input the set of candidate constraints to be verified with respect to the event log. In this context, the research of Simone Agostinelli concentrated on investigating how to leverage ML for the automated discovery of the DFA underlying the behavior of a declarative BP model, without using any further a-priori information in addition to the event log [C8]. An extension of the paper has been published in the prestigious Journal of Information Systems (Elsevier) [J2].
Human-Computer Interaction <i>Leveraging the human-in-the-loop for RPA</i>	Human-Computer Interaction (HCI) is a research topic focusing on the interfaces between users and computers. Nowadays, successful usage of RPA requires strong support from skilled human experts, from the discovery of the routines to be automated to the development of the executable scripts required to enact SW robots. Towards this direction, in the context of HCI, the research of Simone Agostinelli focused on developing a human-in-the-loop approach to filter out the routine behaviors not allowed (i.e., wrongly discovered from the UI log) by any real-world routine under analysis [C5].
Automated Planning <i>Verification of Petri Net-Based Process Models using Automated Planning</i> <i>Generation of Personalized Narrative Experiences in Interactive Storytelling through Automated Planning</i>	Automated planning is a subfield of Artificial Intelligence that deals with the automation of decision-making processes. It involves the use of algorithms and computational techniques to generate a plan of action that achieves a specific goal or set of goals. In this context, the research of Simone Agostinelli concentrated on demonstrating how instances of the verification problem in BPM can be represented as planning problems in PDDL (Planning Domain Definition Language) for which planners can find a correct solution in a finite amount of time. If verification problems are converted into planning problems, one can seamlessly leverage the best-performing automated planners, with advantages in terms of versatility and customization [W5]. Simone Agostinelli was also involved in [N2] to employ automated planning techniques in generating personalized narrative experiences in interactive storytelling. The feasibility of the approach has been demonstrated through a mobile application for cultural heritage based on mini-games, whose order of presentation is dynamically determined to increase user engagement in museum-like spaces.
Big Data Pipeline Discovery <i>Big Data Pipeline Discovery through Process Mining</i>	Big data pipeline discovery refers to the process of identifying, analyzing, and understanding the flow of data from Dark Data sources. This can include identifying sources of data, the different types of data being collected, and how the data is being transformed and stored as it moves through the pipeline. In the context of the DATA CLOUD project, the research of Simone Agostinelli focuses on developing a new breed of intelligent solutions for the achievement of the Data Pipeline Discovery task, relying on a scalable integration of process mining techniques to (semi-)automatically learn the structure of Big Data pipelines by interpreting huge amounts of event data produced by Dark Data sources [C1, N1].

Blockchain Technologies	Blockchain is a distributed database technology that builds on a tamper-proof list of timestamped transaction records. Its innovative power stems from allowing parties to transact with others they do not trust over a computer network in which nobody is trusted. This is enabled by a combination of peer-to-peer networks, consensus-making, cryptography, and market mechanisms. In the context of the BINTRAWINE project, the research of Simone Agostinelli concentrates on designing and realizing an IT platform that offers integrated services for managing data in the wine supply chain, ensuring reliability, traceability, and verifiability. The system will use the blockchain to manage information in a shared and simultaneous way, representing a digital transformation opportunity for the highly competitive wine sector [C3]. An extension of this work [J1] has been accepted at prestigious journal of Industrial Information Integration (Elsevier).
<i>Blockchain, Tracking, and Tracing solutions for Wine Supply Chain</i>	

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Journal Papers [international]	5	Google Scholar	2020	2025
Book [scientific]	1	Google Scholar	2024	2024
Book Chapters [scientific]	1	Google Scholar	2021	2021
Conference Papers [international]	14	Google Scholar	2019	2024
Conference Papers [national]	3	Google Scholar	2019	2021
International Workshops [scientific]	6	Google Scholar	2019	2024
Theses [academic]	1	Sapienza	2022	2022
Edited Works*	2	-----	2024	2024
Papers under Review*	4	-----	--	--

Metrics	Google Scholar	Scopus
Number of Research Products*	31	30
Total Citations	494	278
Average Citations per Product°	15,93	9,27
Hirsch (H) index	13	10
i10-index	13	10
Normalized H index''	4,3 (1,9)	3,3 (1,4)

* Edited works and papers under review are not considered in the list of research products.

° The *average citations* are calculated on the basis of the peer-reviewed articles published from 2018 to 2025.

'' *Normalized H index* is the H-index divided by the academic seniority. Notice that Dr. Simone Agostinelli graduated in 2018, got his PhD in May 2022 and his first scientific publication relates to September 2019. For the computation of the metric, the academic seniority has been calculated in two different ways: (i) as the time span from the completion of the PhD, which can be estimated to be 2 years and 9 months (rounded up to 3 years); (ii) as the time span from the starting of the PhD, which can be estimated to be 7 years and 3 months (rounded down to 7 years); in the latter case, the value of the metric is in the round brackets.

Part IX – Publications

International Journals

- J1. **S. Agostinelli**, A. Arman, F. De Luzi, F. Monti, M. Manglaviti, M. Mecella. *Supporting Business Confidentiality in Cooperative Scenarios: the B-CONFIDENT Approach in Blockchain-based Supply Chains*. In: Journal of Industrial Information Integration (ISSN 2452-414X), DOI: <https://doi.org/10.1016/j.jii.2024.100730>, Elsevier, 2024 [JCR 10.4/10.5] [SJQ1] [GS 0] [SC 0]
- J2. **S. Agostinelli**, F. Chiariello, F.M. Maggi, A. Marrella, F. Patrizi. *Process Mining Meets Model Learning: Discovering Deterministic Finite State Automata from Event Logs for Business Process Analysis*. In: Information Systems (ISSN 0306-4379), Volume 114, Elsevier, 2023 [JCR 3.0/2.9] [SJQ1] [GS 14] [SC 10]
- J3. **S. Agostinelli**, M. Lupia, A. Marrella, M. Mecella. *Reactive Synthesis of Software Robots in RPA from User Interface Logs*. In: Computers in Industry (ISSN 0166-3615), Volume 142, Elsevier, 2022 [JCR 8.2/9.3] [SJQ1] [GS 33] [SC 24]
- J4. **S. Agostinelli**, F. Covino, G. D’Agnese, C. De Crea, F. Leotta, A. Marrella. *Supporting Governance in Healthcare through Process Mining: A Case Study*. In: IEEE Access (ISSN 2169-3536), Volume 8, IEEE, 2020 [JCR 3.4/3.7] [SJQ1] [GS 28] [SC 13]
- J5. **S. Agostinelli**, T. Hohenadl, A. Marrella, A. Martinez-Rojas. *SmartRPA: Generating Software Robots from User Interface Logs*. Currently under review after a minor revision at SoftwareX, Elsevier, 2024 [JCR 2.4/3.1] [SJQ2]

Book

- B1. **S. Agostinelli**. [*Generating Executable Robotic Process Automation Scripts from Unsegmented User Interface Logs*](#). Springer, 2024. This book is a revised version of the PhD Dissertation written by the author. The original PhD dissertation is accessible at: <https://iris.uniroma1.it/handle/11573/1661397>

Book Chapters

- B2. **S. Agostinelli**, A. Marrella, M. Mecella. *Automated Segmentation of User Interface Logs*. In: Robotic Process Automation: Management, Technology, Applications, pp. 201-222, De Gruyter, 2021

International Conferences

- C1. **S. Agostinelli**, D. Benvenuti, A. Marrella, J. Rossi. DIS-PIPE: A Tool for Data Pipeline Discovery. In: Proceedings of the Doctoral Consortium and Demo Track at the 6th International

Conference on Process Mining (ICPM 2024), CEUR Workshop Proceedings (Vol. 3783), Copenhagen, Denmark, 15 October 2024

- C2. **S. Agostinelli**, D. Benvenuti, A. Casciani, F. De Luzi, M. Marinacci, A. Marrella, J. Rossi. *A Context-Aware Framework to Support Decision-Making in Production Planning*. In: Proceedings of the 36th International Conference on Advanced Information Systems Engineering (CAiSE 2024), Springer (Vol. 14663), pp. 248-264, Lymassol, Cyprus, 3-7 June 2024 **[CORE A] [GII-GRIN A] [GS 0] [SC 0]**
- C3. **S. Agostinelli**, F. De Luzi, M. Manglaviti, M. Mecella, F. Monti, F.M. Petriccione, M. Mesenzani, A. Pollini, A. Verioli, U. Amadio. *BinTraWine - Blockchain, Tracking and Tracing Solutions for Wine*. In: Proceedings of 35th International Conference on Advanced Information Systems Engineering (CAiSE 2023), CEUR Workshop Proceedings (Vol. 3413), pp. 44-51, Zaragoza, Spain, 16 June 2023
- C4. **S. Agostinelli**, A. Marrella, L. Abb, J.R. Rehse. *Mastering Robotic Process Automation with Process Mining*. In: Proceedings of the 20th International Conference on Business Process Management (BPM 2022), Springer (Vol. 13420 LNCS), pp. 47-53, Münster, Germany, 11-16 September 2022 **[CORE A] [GII-GRIN A] [GS 7] [SC 4]**
- C5. **S. Agostinelli**, G. Acitelli, M. Capece, M. Mecella. *A Human-in-the-Loop Approach to Support the Segments Compliance Analysis*. In: Proceedings of the Robotic Process Automation (RPA) Forum, held as part of the 20th International Conference on Business Process Management (BPM 2022), Springer (Vol. 459 LNBIP), pp. 200-214, Münster, Germany, 11-16 September 2022 **[CORE A] [GII-GRIN A] [GS 2] [SC 2]**
- C6. **S. Agostinelli**, F. De Luzi, U. Di Canito, J. Ferraro, A. Marrella, M. Mecella. *A Data-Centric Approach to Design Resilient-Aware Process Models in BPMN*. In: Proceedings of the Business Process Management Forum, held at the 20th International Conference on Business Process Management (BPM 2022), Springer (Vol. 458 LNBIP), pp. 38-54, Münster, Germany, 11-16 September 2022 **[CORE A] [GII-GRIN A] [GS 3] [SC 3]**
- C7. **S. Agostinelli**, F. Leotta, A. Marrella. *Interactive Segmentation of User Interface Logs*. In: Proceedings of the 19th International Conference on Service-Oriented Computing (ICSOC 2021), Springer (Vol. 13121), pp. 65-80, Dubai, 22-25 November 2021 **[CORE A] [GII-GRIN A-] [GS 13] [SC 11]**
- C8. **S. Agostinelli**, G. Bergami, A. Fiorenza, F.M. Maggi, A. Marrella, F. Patrizi. *Discovering Declarative Process Model Behavior from Event Logs via Model Learning*. In: Proceedings of the 3rd International Conference on Process Mining (ICPM 2021), pp. 48-55, Eindhoven, 31 October - 4 November 2021
- C9. **S. Agostinelli**, M. Lupia, A. Marrella, M. Mecella. *SmartRPA: A Tool to Reactively Synthesize Software Robots from User Interface Logs*. In: Proceedings of the 33rd International

Conference on Advanced Information Systems Engineering (CAiSE 2021 Forum), Springer (Volume 424 LNBIP), pp. 137-145, Melbourne, Australia, 28 June - 2 July 2021.

- C10. **S. Agostinelli**, A. Marrella, M. Mecella. *Exploring the Challenge of Automated Segmentation in Robotic Process Automation*. In: Proceedings of 15th International Conference on Research Challenges in Information Science (RCIS 2021), Springer, (Volume 415 LNBIP), pp. 38-54, Limassol, Cyprus, 11-14 May 2021. **[CORE B] [GS 21] [SC 12]**
- C11. **S. Agostinelli**. *Automated Segmentation of User Interface Logs Using Trace Alignment Techniques (Extended Abstract)*. In: Proceedings of 2nd International Conference on Process Mining (ICPM 2020) - Doctoral Consortium and Tool Demonstration Track, CEUR Workshop Proceedings (Vol. 2703), pp. 13-14, Padua, Italy, 4-9 October 2020.
- C12. **S. Agostinelli**, M. Lupia, A. Marrella, M. Mecella. *Automated Generation of Executable RPA Scripts from User Interface Logs*. In: Proceedings of 18th International Conference on Business Process Management (BPM 2020) – Robotic Process Automation (RPA) Forum, Springer (Vol 393 LNBIP), pp. 116-131, Seville, Spain, 13-18 September 2020. **Selected among the best papers of the RPA Forum** **[CORE A] [GII-GRIN A] [GS 48] [SC 39]**
- C13. **S. Agostinelli**, F.M. Maggi, A. Marrella, F. Milani. *A User Evaluation of Process Discovery Algorithms in a Software Engineering Company*. In: Proceedings of 23rd IEEE International Conference on Enterprise Computing (EDOC 2019), pp. 142-150, Paris, France, 28-31 October 2019
- C14. **S. Agostinelli**, F.M. Maggi, A. Marrella, F. Sapio. *Achieving GDPR Compliance of BPMN Process Models*. In: Proceedings of 31st International Conference on Advanced Information Systems Engineering (CAiSE 2019 Forum), Springer (Vol. 350), pp. 10-22, Rome, Italy. 3-7 June 2019. **Winner of the Best Forum Paper Award** **[CORE A] [GII-GRIN A] [GS 58] [SC 52]**

National Conferences

- N1. **S. Agostinelli**, D. Benvenuti, F. De Luzi, A. Marrella. *Big Data Pipeline Discovery through Process Mining: Challenges and Research Directions*. In: Proceedings of the 1st Italian forum on Business Process Management (ITBPM'21) held in conjunction with the 19th International Conference on Business Process Management (BPM 2021), CEUR Workshop Proceedings (Vol. 2952), pp. 50-55, Rome, Italy, 10 September 2021.
- N2. **S. Agostinelli**, F. Battaglini, T. Catarci, F. dal Falco, A. Marrella. *Generating Personalized Narrative Experiences in Interactive Storytelling through Automated Planning*. In: Proceedings of the Biannual Conference of the Italian SIGCHI Chapter (CHIItaly 2019), Padua, Italy, 23-25 September 2019.

- N3. **S. Agostinelli**. *Synthesis of Strategies for Robotic Process Automation*. In: Proceedings of the 27th Italian Symposium on Advanced Database System (SEBD 2019), CEUR Workshop Proceedings (Vol. 2400), Castiglione della Pescaia, Italy, 16-19 June 2019.

International Workshops

- W1. G. Acitelli, **S. Agostinelli**, A. Casciani, A. Marrella. *An End-To-End Execution of a Logistic Process in an AI-Augmented Business Process Management System*. Accepted at the Workshop on Process Management in the AI Era (PMAI 2024), held in conjunction with the 27th European Conference on Artificial Intelligence (ECAI 2024), CEUR Workshop Proceedings, Santiago de Compostela, Spain, 19-24 October 2024
- W2. G. Acitelli, **S. Agostinelli**, A. Casciani, A. Marrella. *The Role of Trust in AI-Augmented Business Process Management Systems*. Accepted at the Workshop on Artificial Intelligence for Business Process Management (AI4BPM 2024), held in conjunction with the 22nd International Conference on Business Process Management (BPM 2024), Springer, Krakow, Poland, 2 September 2024
- W3. **S. Agostinelli**, A. Marrella. *Intelligent Robotic Process Automation: Generating Executable RPA Scripts from Unsegmented UI Logs*. In: Proceedings of the Workshop on Process Management in the AI Era (PMAI 2022), held in conjunction with the 31st International Joint Conference on Artificial Intelligence and the 25th European Conference on Artificial Intelligence (IJCAI-ECAI 2022), CEUR Workshop Proceedings (Vol. 3310), pp. 89-21, Wien, Austria, 23 July 2022
- W4. **S. Agostinelli**, A. Marrella, M. Mecella. *Towards Intelligent Robotic Process Automation for BPMers*. In: Proceedings of the AAAI-20 Workshop on Intelligent Process Automation (IPA 2020), held in conjunction with the 34th AAAI Conference on Artificial Intelligence (AAAI 2020), New York, U.S.A., 7-12 February 2020. <https://arxiv.org/pdf/2001.00804.pdf>
- W5. **S. Agostinelli**, F.M. Maggi, A. Marrella, M. Mecella. *Verifying Petri Net-Based Process Models using Automated Planning*. In: Proceedings of the 23rd IEEE International Enterprise Distributed Object Computing Workshop (EDOC 2019), Vol. 2019, pp. 44-53, Paris, France, 28 October 2019
- W6. **S. Agostinelli**, A. Marrella, M. Mecella. *Research Challenges for Intelligent Robotic Process Automation*. In: Proceedings of the Workshop on Artificial Intelligence for Business Process Management (AI4BPM 2019), held in conjunction with the 17th International Conference on Business Process Management (BPM 2019), Springer (Vol. 362 LNBIP), pp. 12-18, Vienna, Austria, 2 September 2019

Edited Works

- E1. C. Di Ciccio, W. Fdhila, **S. Agostinelli**, D. Amyot, H. Leopold, M. Krcál, M. M. Mandelburger, G. Polancic, K. Tomicic-Pupek, K. Gdowska, T. Grisold, P. Sliz, I. Beerepoot, R. Gabryelczyk, R. Plattfaut. *Business Process Management: Blockchain, Robotic Process Automation, Central*

and Eastern European, Educators and Industry Forum - BPM 2024 Blockchain, RPA, CEE, Educators and Industry Forum, Krakow, Poland, September 1-6, 2024, Proceedings. Lecture Notes in Business Information Processing 527, Springer 2024, ISBN 978-3-031-70444-4

- E2. A. del Río Ortega, M. Montali, S. Rinderle-Ma, H.A. Reijers, J. vom Brocke, M. Weske, B. Depaire, M. Indulska, H. van der Aa, W. Adrian, L. Genga, S. J. J. Leemans, K. Gdowska, M. T. Gómez López, J. Rehse, **S. Agostinelli**. *Proceedings of the BPM 2024 Best Dissertation Award, Doctoral Consortium, and Demonstration & Resources Forum*, Krakow, Poland, September 1-6, 2024. CEUR Workshop Proceedings 3758.

Thesis

- T1. **S. Agostinelli**. [*Generating Executable Robotic Process Automation Scripts from Unsegmented User Interface Logs*](#). PhD Thesis in Engineering in Computer Science (Cycle XXXIV), Sapienza Università di Roma, Italy. 20 May 2022. **The thesis won the Best PhD Dissertation Award at the 21st International Conference on Business Process Management (BPM 2023).**

Papers Under Review

- U1. **S. Agostinelli**, A. del Río Ortega, R. G. Medina, A. Marrella, M. Resinas, and J. Rossi. *Suggest and Compute Process Performance Indicators from Event Logs*. Submitted at the 37th International Conference on Advanced Information Systems Engineering (CAISE'25), Springer, Vienna, Austria, June 16-20 2025. **[CORE A] [GII-GRIN A]**
- U2. **S. Agostinelli**, A. Marrella, F. Scafoglieri. *Device-Aware Robotic Process Automation*. Submitted at the 37th International Conference on Advanced Information Systems Engineering (CAISE'25), Springer, Vienna, Austria June 16-20 2025. **[CORE A] [GII-GRIN A]**
- U3. T. Hohenadl, A. Martinez-Rojas, **S. Agostinelli**, J.G. Enríquez. *Enabling Routine Discovery from High-Noise UI Logs: A Time Series Data Mining Approach*. Currently under review at IEEE Transactions on Software Engineering, IEEE, 2024 **[JCR 6.5/7] [SJR Q1]**
- U4. **S. Agostinelli**, F. De Luzi, F.M. Maggi, and A. Marrella. *Design Patterns for GDPR-Aware Process Modeling in BPMN*. Currently under review at Information Systems, Elsevier, 2024 **[JCR 3.0/2.9] [SJR Q1]**

Part X – Invited Talks, Tutorials and Papers presentation

(X A) – Invited Talks

- “Introduction to Robotic Process Automation”. Invited talk held at the [Dagstuhl Seminar 24292](#) “Improving Trust between Humans and Software Robots in Robotic Process Automation”, 14-19 July 2024, Wadern, Germany.
- “Generating Executable Robotic Process Automation Scripts from User Interface Logs”. Invited talk held at the H2020 Datacloud Dissemination Workshop, organized within the 5th International Conference on Process Mining (ICPM 2023), 26 October 2023, Rome, Italy.

(X B) – Tutorials

- “Mastering Robotic Process Automation with Process Mining”. Tutorial held at 20th International Conference on Business Process Management (BPM 2022), 14 September 2022, Munster, Germany.

(X C) – Papers Presentation

Simone Agostinelli has presented the results of his research in the following events:

Year	Event	Paper
2024	6th International Conference on Process Mining (ICPM 2024 Demo Track)	DIS-PIPE: A Tool for Data Pipeline Discovery
2024	Workshop on Artificial Intelligence for Business Process Management (AI4BPM 2024), held in conjunction with the 22nd International Conference on Business Process Management (BPM 2024)	The Role of Trust in AI-augmented Business Process Management Systems
2024	36th International Conference on Advanced Information Systems Engineering (CaiSE 2024)	A Context-Aware Framework to Support Decision-Making in Production Planning
2022	Robotic Process Automation (RPA) Forum, held as part of the 20th International Conference on Business Process Management (BPM 2022)	A Human-in-the-Loop Approach to Support the Segments Compliance Analysis
2021	33rd International Conference on Advanced Information Systems Engineering (CAiSE 2021 Forum)	SmartRPA: a Tool to Reactively Synthesize Software Robots from User Interface Logs
2021	15th International Conference on Research Challenges in Information Science (RCIS 2021)	Exploring the Challenge of Automated Segmentation in Robotic Process Automation
2021	19th International Conference on Service-Oriented Computing (ICSOC 2021)	Interactive Segmentation of User Interface Logs
2020	AAAI-20 Workshop on Intelligent Process Automation (IPA 2020), held in conjunction with the 34th AAAI Conference on Artificial Intelligence (AAAI 2020)	Towards Intelligent Robotic Process Automation for BPMers
2020	Doctoral Consortium of the 2nd International Conference on Process Mining (ICPM 2020)	Automated Segmentation of User Interface Logs using Trace Alignment Techniques

2020	Robotic Process Automation (RPA) Forum of the 18th International Conference on Business Process Management (BPM 2020)	Automated Generation of Executable RPA Scripts from User Interface Logs
2019	23rd IEEE International Conference on Enterprise Computing (EDOC 2019)	A User Evaluation of Process Discovery Algorithms in a Software Engineering Company
2019	23rd IEEE International Enterprise Distributed Object Computing Workshop (EDOC 2019)	Verifying Petri Net-based Process Models using Automated Planning
2019	27th Italian Symposium on Advanced Database System (SEBD 2019)	Synthesis of Strategies for Robotic Process Automation
2019	Workshop on Artificial Intelligence for Business Process Management (AI4BPM 2019), held in conjunction with the 17th International Conference on Business Process Management (BPM 2019)	Research Challenges for Intelligent Robotic Process Automation
2019	31st International Conference on Advanced Information Systems Engineering (CAiSE 2019 Forum)	Achieving GDPR Compliance of BPMN Process Models

Part XI – Professional Service

(XI A) – Conferences and Workshops Organization and Chairship

As far as organization and chairship of conferences and workshops, Simone Agostinelli has acted/is acting as:

- [Organizer](#) of the 1st International Workshop on Implementation and Management of Intelligent Process Automation Solutions (AUTOMATE 2025), to be held in conjunction of the 23rd International Conference on Business Process Management (BPM 2025)
- [Proceedings Chair](#) of the 23rd International Conference on Business Process Management (BPM 2025)
- [RPA Forum Chair](#) of the 22nd International Conference on Business Process Management (BPM 2024)
- [Proceedings Chair](#) of the 22nd International Conference on Business Process Management (BPM 2024)
- [Publicity Chair](#) of the 5th International Conference on Process Mining (ICPM 2023)

(XI B) – Editorial Reviewing Board Membership

Simone Agostinelli serves the Editorial Review Board of:

- The ACM Journal of Data and Information Quality ([JDIQ](#))

(XI C) – Program Committee Membership

Simone Agostinelli serves/has served in the Program Committee of:

- 28th European Conference on Artificial Intelligence ([ECAI 2025](#))
- 34th International Joint Conference on Artificial Intelligence ([IJCAI 2025](#))
- 23rd International Conference on Business Process Management ([BPM 2025](#))
- 6th International Conference on Process Mining - Event Data & Behavioral Analytics ([EdbA 2024](#)) workshop
- 27th European Conference on Artificial Intelligence ([ECAI 2024](#))
- 22nd International Conference on Business Process Management ([BPM 2024](#))
- 6th International Conference on Process Mining – Demonstration Track ([ICPM 2024 Demo Track](#))
- 22nd International Conference on Service Oriented Computing - Demonstration Track ([ICSOC 2024 Demo Track](#))
- [TransAI 2024](#): IEEE International Conference on Transdisciplinary AI
- 5th International Conference on Process Mining – Demonstration Track ([ICPM 2023 Demo Track](#))
- 21st International Conference on Service Oriented Computing - Demonstration Track ([ICSOC 2023 Demo Track](#))
- [TransAI 2023](#): IEEE International Conference on Transdisciplinary AI
- 21st International Conference on Business Process Management ([RPA Forum 2023](#))
- 20th International Conference on Service Oriented Computing - Demonstration Track ([ICSOC 2022 Demo Track](#))
- 20th International Conference on Business Process Management ([RPA Forum 2022](#))

(XI D) – Reviewer for International Journals, Conferences and Workshops

Simone Agostinelli has served as a reviewer for:

- **International Journals:**
 - Applied Sciences (MDPI)
 - Business and Information Systems Engineering (Springer)
 - Business Research (Elsevier)
 - Computing (Springer)
 - Journal of Data and Information Quality (ACM)
 - Heliyon (Elsevier)
 - Manufacturing Systems (Elsevier)
 - Journal of Industrial Information Integration (Elsevier)
 - Data and Knowledge Engineering (Elsevier)
- **International Conferences:**
 - Business Process Management (BPM)
 - Business Information Systems (BIS)
 - Enterprise Design, Operations, and Computing (EDOC)
 - Advanced Information Systems Engineering (CAISE)
 - Research Challenges in Information Systems (RCIS)
 - Human-Machine Systems (ICHMS)

- Process Mining (ICPM)
- Service Oriented Computing (ICSOC)
- Artificial Intelligence (IJCAI)
- Enterprise Information System (ICEIS)
- IEEE Transactions on Software Engineering
- Transdisciplinary AI

- **European Conferences:**

- Information System (ECIS)
- Artificial Intelligence (ECAI)