

GIOVANNI MERONI

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I am currently working as Postdoctoral Research Assistant at Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano since 2018, where I also received the PhD degree in Information Engineering. I belong to the Information Systems group and my research interests concern Business Process Management, Service Oriented Architectures, Internet of Things, and Blockchain.

EDUCATION

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|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| PhD | Politecnico di Milano, Information Engineering
Dissertation: “Artifact-driven Business Process Monitoring”
Advisor: Dr. Pierluigi Plebani
Graduated Cum Laude | Nov 2014 – Jun 2018 |
| MS | Politecnico di Milano, Computer Engineering
Thesis: “SCoReS: SeNSori COMposition & REtrieval Services”
Advisor: Prof. Letizia Tanca | Oct 2011 – Oct 2013 |
| BS | Politecnico di Milano, Computer Engineering | Oct 2008 – Sep 2011 |

PREVIOUS EMPLOYMENT

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| Reti S.p.A.
IT consultant | Oct 2013 – Sep 2014 |
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INTERNATIONAL COLLABORATIONS

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| Vienna University of Economics and Business (WU Wien)
Visiting researcher | Sep 2016 – Dec 2016 |
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IoT-based Multi-party Process Monitoring

Business Processes are more and more exploiting Smart Objects to perform their tasks. This research envisions the adoption of Smart Objects to design reliable business processes and to assess their correct execution. Instead of using control-flow based languages to express the processes, declarative-based approaches like GSM (Guard Stage Milestone) and CMMN (Case Management Modeling Notation) are used.

Most relevant publications:

Meroni, G., Baresi, L., Montali, M., Plebani, P.: Multi-party business process compliance monitoring through IoT-enabled artifacts. In: Information Systems. Volume 73, pp. 61 – 78. Elsevier (2018)

Meroni, G., Di Ciccio, C., Mendling, J.: An Artifact-Driven Approach to Monitor Business Processes Through Real-World Objects. In: Service-Oriented Computing - ICSOC 2017. LNCS, pp. 297–313. Springer International Publishing (2017)

Baresi, L., Meroni, G., Plebani, P.: Using the Guard-Stage-Milestone Notation for Monitoring BPMN-based Processes. In: Enterprise, Business-Process and Information Systems Modeling 2016. LNBIP, pp.18-33. Springer International Publishing (2016)

Blockchain and Artifact-driven Process Monitoring

Blockchain and distributed ledger platforms are recently gaining a lot of attention, as they allow to build trust among organizations without relying on trusted intermediaries, such as banks or government agencies. At the same time, artifact-driven process monitoring aims at collecting information on the execution of multi-party business processes in a transparent and independent fashion. This research work analyzes these two areas of interest, and aims at providing a platform to achieve trusted process monitoring.

Most relevant publications:

Meroni, G., Plebani, P.: Combining Artifact-Driven Monitoring with Blockchain: Analysis and Solutions. In: CAiSE 2018 Workshops. LNBIP, pp 103-114. Springer International Publishing (2018)

Ontology-based Sensors and Sensor Data Retrieval

Applications for the Internet of Things, Smart Buildings and Smart Cities heavily rely on sensors and sensor data. However, being able to identify which sensors are suited for the application, and if sensor data are provided in a compatible format is far from trivial. To this aim, this research work exploits ontologies to classify sensors and to infer if they fit an application.

Most relevant publications:

Meroni, G., Plebani, P.: Artifact-Driven Monitoring for Human-Centric Business Processes with Smart Devices: Assessment and Improvement. In: BPM Forum 2017. LNBIIP, pp 160-176. Springer International Publishing (2017)

Foglieni, C., Mazuran, M., Meroni, G., Plebani, P.: Retrieving Sensors Data in Smart Buildings Through Services: A Similarity Algorithm. In: Service-Oriented Computing - ICSOC 2014 Workshops. LNCS, pp 281-291. Springer International Publishing (2015)

PARTICIPATION IN FUNDED PROJECTS

EU-H2020 DITAS Nov 2017 to today
Data-intensive applications Improvement by moving daTA and computation in mixed cloud/fog environments

CTN-ITS ITS2020 Nov 2014 to Nov 2017
Intelligent Transportation Systems

PROGRAM COMMITTEE MEMBERSHIP

BPM (International Conference on Business Process Management) Blockchain Forum
ICFC (International Conference on Fog Computing) DaMove Workshop (Workshop on Efficient Data Movement in Fog Computing)

PEER-REVIEW ACTIVITY

MDPI Information (ISSN 2078-2489)
KSII Transactions on Internet and Information Systems (ISSN 1976-7277)

TEACHING EXPERIENCE

Politecnico di Milano March 2015 to today
Teaching Assistant, Dipartimento di Elettronica, Informazione e Bioingegneria

- Information Systems for Management Engineers (Academic Years 2015-16, 2016-17, 2017-18, 2018-19, 1st semester)
- Information Systems for Computer Engineers (Academic Years 2014-15, 2015-16, 2016-17, 2017-18, 2nd semester, 2017-18, 2018-19, 1st semester)
- Software Engineering (Academic Year 2017-18, 2nd semester)
- Databases 1 (Academic Year 2018-19, 1st semester)

Journal Publications

Meroni, G., Baresi, L., Montali, M., Plebani, P.: Multi-party business process compliance monitoring through IoT-enabled artifacts. In: Information Systems. Volume 73, pp. 61 – 78. Elsevier (2018)

Conference Papers

Meroni, G., Di Ciccio, C., Mendling, J.: An Artifact-Driven Approach to Monitor Business Processes Through Real-World Objects. In: Service-Oriented Computing - ICSOC 2017. LNCS, pp. 297–313. Springer International Publishing (2017)

Meroni, G., Plebani, P.: Artifact-Driven Monitoring for Human-Centric Business Processes with Smart Devices: Assessment and Improvement. In: BPM Forum 2017. LNBIP, pp 160-176. Springer International Publishing (2017)

Meroni, G., Di Ciccio, C., Mendling, J.: Artifact-driven process monitoring: Dynamically binding real-world objects to running processes. In: CAiSE-Forum-DC 2017. CEUR Workshop Proceedings, pp. 105–112. CEUR-WS.org (2017)

Baresi, L., Meroni, G., Plebani, P.: On Handling Business Process Anomalies through Artifact-based Modeling. In: CAiSE-Forum 2016. CEUR Workshop Proceedings, pp 9-16. CEUR-WS.org (2016)

Baresi, L., Meroni, G., Plebani, P.: Using the Guard-Stage-Milestone Notation for Monitoring BPMN-based Processes. In: Enterprise, Business-Process and Information Systems Modeling 2016. LNBIP, pp.18-33. Springer International Publishing (2016)

Meroni, G.: Integrating the Internet of Things with Business Process Management: A Process-aware Framework for Smart Objects. In: CAiSE 2015 Doctoral Consortium. CEUR Workshop Proceedings, pp 56-64. CEUR-WS.org (2015)

Workshop Papers

Meroni, G., Plebani, P.: Combining Artifact-Driven Monitoring with Blockchain: Analysis and Solutions. In: CAiSE 2018 Workshops. LNBIP, pp 103-114. Springer International Publishing (2018)

Baresi, L., Meroni, G., Plebani, P.: A GSM-based approach for Monitoring Cross-Organization Business Processes using Smart Objects. In: BPM 2015 Workshops. LNBIP, pp 389-400. Springer International Publishing (2016)

Foglieni, C., Mazuran, M., Meroni, G., Plebani, P.: Retrieving Sensors Data in Smart Buildings Through Services: A Similarity Algorithm. In: Service-Oriented Computing - ICSOC 2014 Workshops. LNCS, pp 281-291. Springer International Publishing (2015)

LANGUAGES

Italian: Native Language

English: Advanced Listener, Speaker, Reading and Writing

German: Intermediate Reading, Novice Speaker, Listener and Writing

COMPUTER SKILLS

Programming: Excellent knowledge of Java (both SE and EE) and SQL. Proficient in C, C++, C#, Visual Basic, Node.JS, Eclipse ATL

Applications: Proficient in Microsoft Office, Visio and Project, IBM Rational Rose and DB2 UDB, Oracle MySQL. Fair knowledge of LaTeX

Platforms: Excellent knowledge of Microsoft Windows (all versions). Proficient in GNU/Linux and in other UNIX operating systems (Oracle Solaris, HP HP-UX and Tru64, SGI IRIX, IBM AIX). Basic knowledge of IBM i (OS/400) and z/OS (MVS), and HP/VSI OpenVMS