



Matteo Martinelli

Management Engineer

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Professional Experience and Internships

Dec 2020 ->: **Research Grant** – Research group of **Pervasive Computing**, **UNIMORE**

- Workshops and Publications:
 - Topic: Enabling causality learning in smart factories with hierarchical digital twins
 - Platform: Computers in Industry, "*Autonomous, Context-Aware, Adaptive Digital Twins*" Special Issue
 - Topic: Poka Yoke meets Deep Learning: a Proof of Concept for an Assembly Line Application
 - Platform: MDPI – *Smart Manufacturing Systems in Industry4.0* - Special Issue
 - Topic: Conceptual Framework for individual and autonomous development of intelligent agents.
 - Platform: arXiv.
 - 29/11 – 3/12/2021: *Causal Italy workshop* - AIXIA annual conference – Milan, Italy.
 - 20-23/06/2022: *SeLIE workshop* - IE annual conference – Biarritz, France.

Nov 2019 – Dec 2020: **Focus Improvement & Safety Specialist**, Full time – Ognibene Power

- Main activities: micro-areas management and KPIs monitoring, Kaizen management, SMED, Workplace Organization Step 1–3, Operation Tag, EWO, suggestions monitoring and management, project management, S-EWO, Green Tags, Unsafe Conditions/Acts, S-Matrix monitoring, Green Cross monitoring.

Jun – Nov 2019: **Workplace Organization Support**, Part time – Ognibene Power

- Main activities: Operation Tag analysis, assembly layout analysis and improvement, tooling card analysis and improvement, time and methods analysis.

Jan – May 2019: **Master's Degree Internship**, Full time – Dana Motion System

- Main activities: assembly line analysis, As Is State and Performance mapping, methods and time re-engineering, Plan For Every Part, supplier coordination and solution implementation, Poka-Yoke POC engineering based on Convolutional Artificial Deep Neural Network.
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Education & Training

Oct 2022 ->: Guest Researcher at **ISW** - *Institut für Steuerungstechnik der Werkzeugmaschinen* (Institute for Technologies of machine tools control)

- Topics: *Digital Twins for Industry 4.0 and Composability* - Universität Stuttgart, Stuttgart, Germany.

Jun 2022: ACAI TAILOR Summer School 2022 – Prize for the best PhD project presentation

- Topics: *Explainable and Trustworthy AI* - Universitat Politècnica de Catalunya, Barcelona, Spain.

Dec 2020 ->: Ph.D. in Industrial Innovation Engineering – Research group of Pervasive Computing, UNIMORE

- Main topics: AI applied to IoT scenarios, Big Data analysis, Digital Twins.
- Project: Self-organizing systems in twinned industrial environment with autonomous learning and causal models.

Oct 2019: Management Engineering Master's Degree, UNIMORE 105/110

- Thesis: "*An assembly line re-engineering: The Dana Motion System case*".

Jul 2017: participation at the Erasmus+ Program – Krakow, Poland

Dec 2015: Management Engineering Bachelor's Degree, UNIMORE 95/110

- Thesis: "*Implementation of a reading and translation system of DXF files into two axis PLC instructions*".
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Personal Skills

Computer Skills:

- Programming Languages: C#, Java, Python, JavaScript.
- Web technologies: HTML, CSS.
- Programming Libraries: Keras, Numpy, Pandas, PuLP.
- DB Technologies: SQL, document-oriented DBs.
- Programming Environments and Tools: VSCode, Anaconda, JupyterLab, Google Colab, MySQL Workbench, PostgreSQL, MongoDB, Git, UML.
- Operating Systems: Windows, Ubuntu.
- Software: Anylogic – Material Handling and Process Model libraries, Ms Office suite.

Languages

- English (C1 grade); German (A2 grade); Italian (mother language).

Social Skills

Thanks to my experience abroad, I can adapt myself to different social environments, cultures and ways of thinking. My recent work experience made me focus on problem solving, active listening and teamwork. Respect and positivity are the key for group effectiveness. Home automation, 3D printing, motorsport, movies and music are my personal interests.

Organizational Skills:

Activity monitoring is a key point in the success of tasks and achievement of objectives; combining it with a clear definition of deadlines and path to get through, will be possible to move forward all together in a single direction.

Other Information

- Available for work abroad.
- Attachment 1: Certificates and Badges.pdf

Date

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Certificates and Badges



Software and technologies for Data Science

- Date: March 2021;
- Provided by: the Big DataLab project sponsored by the ESF.

https://openbadges.bestr.it/public/assertions/rh6U8Z45S8GyXH_Wx6koSg



Internet of Things and Predictive Analysis

- Date: June 2021;
- Provided by: the Big DataLab project sponsored by the ESF.

<https://openbadges.bestr.it/public/assertions/JNZKBoomR8GTvl-0YMc3lQ>



Deep Learning Applications

- Date: June 2021;
- Provided by: the Big DataLab project sponsored by the ESF.

<https://openbadges.bestr.it/public/assertions/bVoUXhQHRG2vhfunvjMTCw>

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