PERSONAL INFORMATION

Matteo Sassi

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Gender Male | Date of birth 11/01/1977 | Nationality Italian | Marital Status: Divorced

Summary

R&D Software Lead and System Integrator with a PhD in Physics and 15+ years of experience in embedded systems, industrial applications, and complex system integration, with a strong focus on system modeling, constraint-driven problem solving, and the design of complex interaction processes.

Proven ability to lead cross-functional teams, solve multidisciplinary problems, and bridge hardware, software, and product development through a system-oriented approach, including the application of the Theory of Constraints to identify bottlenecks and optimize performance.

Applies the same system-oriented approach to game design and educational training, using design methodologies to model interaction, learning, and complex processes.

Combines hands-on industrial experience with teaching and training activities, bringing real-world cases, prototyping practices, debugging methods, and project-based learning into the classroom.

WORK EXPERIENCE

12/2018 – now — Software Development Lead - R&D

Altform SRL, (ex Prima Additive SRL, ex 3D-NT), Via IV Novembre 116 - Solbiate Olona (VA) Italy

- Responsible for the development of high-level and embedded software, and for testing the electronics of the 3D SLM metal printer PrintGenius 150.
- Characterization and qualification of sensors and devices used in the PrintGenius 150.
- Identified and resolved electronic, mechanical, and optical issues during the development of the PrintGenius 150 printer.
- Provided support for product customization according to customer requirements.
- Acted as System Integrator
- Member of the design team for next-generation metal printer models.
- Developed service and maintenance applications.

Business or sector Industry 4.0, 3D Printing.

01/2016 – 10/2018 — Chief Science Officer and Chief Technical Officer *ad interim*

Social Nation S.R.L., Corso Magenta, 56 - 20123 Milano (MI), Italy

- Responsible for the scientific and technical aspects of Social Nation web products.
- Managed a team of 10 software engineers applying Theory of Constraints principles to identify bottlenecks, prioritize development efforts, and improve delivery flow. By using DevOps, Continuous Integration and Delivery, and Test-Driven Development methodologies.
- High-level requirements analysis.
- Supervised the integration process across backend (Java), Android (Java), iOS (Swift 3), frontend (AngularJS, JavaScript), back office (AngularJS, JavaScript), and API gateway (Swagger).
- Direct interaction with the CEO.
- Reviewed and verified team activities and interacted with the software quality manager.

Business or sector IoT, Identity Provider.

10/2014 – 01/2016 — Software Development Lead

Magneti Marelli S.p.A., Viale Aldo Borletti, 61/63 - 20011 Corbetta (MI), Italy

- Responsible for the development of the BSP for Corbetta Site.
- Managed a team of 6 engineers using Agile Scrum methodology and the Atlassian toolchain.
- Remotely managed teams across Italy, Germany, France, and India for VW and FCA projects.

- Reported team activities to software project leaders and the software development team lead.
- Reviewed and verified team activities and interacted with the software quality manager.
- Managed and released BSP platforms.
- Managed porting activities.

Business or sector Automotive.

01/2013 – 10/2014

Senior Embedded Software Engineer

Magneti Marelli S.p.A., Viale Aldo Borletti, 61/63 - 20011 Corbetta (MI), Italy

Magneti Marelli UM Electronic Systems PVT. LTD, IMT Manesar, Gurgaon – Haryana, India.

- Implemented vehicle functions for TFT instrument panel clusters (Fiat 500, Jeep Renegade, Fiat 500X, Fiat Uno).
- Designed and developed low-level drivers for Renesas Dx4 processors (LIN communication driver, 3.5" TFT control driver).
- Designed and developed software components for FCA platforms.
- Responsible for the development and integration of Dx4 and FCA platforms used worldwide for next-generation instrument panel clusters.
- Software lead for the YBA project (Maruti Suzuki XA Alpha).
- Co-designed cluster functionality with the Maruti Suzuki XA Alpha team in India (13 weeks on-site).
- Led the Maruti Suzuki XA Alpha cluster specification team.

Business or sector Automotive.

01/2013 – 01/2016

Senior Embedded Software Engineer

Positech Consulting S.r.l., Via Edmondo De Amicis 49, 20123, Milano (Italy)

- Consultant at Magneti Marelli S.p.A.

Business or sector Electronic and Information Technologies.

01/2007 – 01/2013
09/2001 – 09/2002

Embedded System Designer

Sanitas Eg s.r.l., via Bassini 16, 20133, Milano (Italy) - *http://www.sanitaseg.it/*

- Designed and implemented an acquisition system based on CMOS and CCD sensors.
- Developed solutions to improve image quality by reducing noise.
- Developed algorithms for automatic exposure in CCTV systems.
- Supervised the development of an in-the-loop test system based on Matlab for a proprietary computer vision system.
- Studied and designed motion estimation algorithms.
- Studied focus estimation algorithms using Matlab.
- Supervised case studies on High Dynamic Range and computer vision algorithms for CCTV embedded systems.
- Designed and developed CCTV cameras based on ARM Linux embedded systems, including ad hoc software, bash scripting, bootloader implementation, and update procedures.
- Developed software libraries (Linux) and DLLs (Windows) for communication between embedded systems and PCs.
- Designed, developed, and tested IR LED boards for CCTV systems, including implementation of day-and-night algorithms.
- Design, development and test of 2 megapixels CMOS based head for an endoscopic system with 4 high power LEDs.
- Developed and tested a computer-based system for synchronous acquisition from ten 1.2 MP cameras over a proprietary communication protocol.
- Expertise in optics and sensors selection for Computer Vision and CCTV systems.
- Technical referent for CCTV systems.
- Development of Time of Flight (ToF) measurement system using FPGA based system and definition of methods to evaluate the quality of the measure.
- Development of algorithms for full 10Gb/s TCP/IP reconstruction using a PPC embedded in an FPGA.
- Experience in technical team leadership.
- Analysis of customer technical requirements and realization of feasibility studies.
- Analyzed customer technical requirements and conducted feasibility studies. Defined production test procedures and product quality test procedures.
- Experience in supplier management during the production phase.
- Embedded System - Low-Level Driver Development (standalone system and Linux based

system).
- Debug of Linux based embedded system.
- Expertise with XILINX/LATTICE FPGA device and FPGA in-chip microprocessor.
- Expertise with Analog Device and Texas Instrument DSP.
- Expertise with ARM and PowerPC microprocessors.
- Design and implementation of 2 Layer PCB.
- Design and implementation of C/C++ standalone code for 8-16bit microprocessors.

Business or sector Electronic and Information Technologies.

09/2005 – 09/2010 **Educator**

Coop Sociale Ce.Se.D., Via Zuretti,49, 20125, Milano, Italy

- Part-Time Educator at Mazzafame - Legnano Youth Center.
- Educational project based on role-playing games for people aged 18–22.

Business or sector Education and Service (Terzo Settore - Voluntary sector)

TEACHING

Summary

Teaching activities focused on game design, educational use of board games, and project-based learning.

Experience includes university workshops and professional training courses, with a practical approach based on prototyping, iteration, guided exercises, and adaptation of games to educational and training objectives.

03/2024 - in progress **Tutor at the “Corso di perfezionamento GAMING AND BOARDGAME DESIGN” - UNIGE - UNIMI**

Served as a tutor in Board Game Design in the “Corso di perfezionamento in Gaming and Board Game Design,” teaching 4–8 hours per year (2024–present).

University of Genova, Dipartimento di scienze politiche internazionali - Piazzale E. Brignole, 3a canc. 16125 - Genova (GE)

03/2024 - in progress **Workshop lead at POLITO Design Workshop – Grow by Playing**

During Design Workshop Week, I was one of the leads of the workshop “Grow by Playing,” where students learned how to create and adapt games for training sessions (2024).

Politecnico di Torino, Dipartimento di Design - Corso Luigi Settembrini, 178, Torino

05/2021 **Corso di Formazione per Educatori - CESVIP**

The course was delivered to “Cooperativa Il Girasole”, Castiglione Olona (Va). The focus was on using board games and video games as empowerment tools for individuals with significant cognitive deficits.

03/2019 **Corsi di Formazione per Educatori - IAL Lombardia**

The Course was delivered to “Scuola Materna SS Redentore”, Legnano (Mi). The focus was on using board games as empowerment tools with kindergarten children.

03/2019 - 03/2023 **Tutor at POLITO Design Workshop - Grow by Playing**

During the Design Workshop Week I was one of the tutor of the workshop “Grow by Playing” where students learn how to create/modify a game to use in training sessions.
2019-2021-2022-2023

Politecnico di Torino, Dipartimento di Design - Corso Luigi Settembrini, 178, Torino

GAME DESIGN & EVENTS

Summary

Application of game design as a methodology for modeling systems, interactions, and learning processes across educational, cultural, and professional contexts.

Activities include game design, event organization, and training, as part of a broader approach to structured problem-solving and system design.

These activities extend the same system-oriented approach applied in my technical work, using game design as a tool to model systems, interactions, and learning processes.

Events

IDEAG – Italian Board Game Designers Network

- Responsible for IDEAG Local events (since 2018)
- Member of the national event organization team (since 2019)
- Head of organization of the national IDEAG event (since 2024)

Board Game Design

Game Design & Development

- Design and development of original board games, including:
- "Papyrus" (2022, published)
- "Richelieu!" (forthcoming publication)

Development of board games on commission for third parties, including educational and promotional projects:

- "Meal Deal" (2024) – educational game promoting healthy nutrition, distributed in primary schools
- "Quixiliht" – serious game designed to support understanding of Specific Learning Disorders (SLD), presented and published at BGRM 2024
- Game developed for Biblioteca Tilane (Paderno Dugnano), as part of educational and cultural activities
- Insert game for sticker album – "Me Contro Te: Missione Giungla" (2023)

Recognition

- Finalist at the Premio Archimede international game design competition (2018 – "Repubbliche Marinare"; 2025 – "Richelieu!")

Research & Publications

- Research activity on board game accessibility (MIPS – University of Milan)
- Co-founder of the Board Game Research Meeting (BGRM)
- Author and columnist on game design and game-based learning (ioGioco Magazine, Medium, BoardGameGeek)

Maintained a blog focused on the use of tabletop games as educational tools
https://educereludendo.blogspot.it/
https://medium.com/@matteosassi
https://boardgamegeek.com/blog/6561/educere-ludendo

Freelance Columnist to ioGioco Magazine 2017-2023

RESEARCH ACTIVITIES

01/2022 – in corso

Volunteer researcher at MIPS – UNIMI

MIPS (Multimedia, Interaction, Perception, and Society Laboratory at *Department of Computer Science*) – Università degli studi - Via Celoria 18, 20133, Milano, Italy.

- Co-Founder of Board Game Research Meeting,
- Research activity on board game accessibility

04/2011 – 03/2012

Research Grants at IASF-INAF

IASF (*Istituto di Astrofisica Spaziale Fisica Cosmica – National Institute for Astrophysics*) – Sezione di Milano - Via Bassini 15, 20133, Milano, Italy.

- Research grant titled: "Studio di algoritmi di analisi video in tempo reale per la rivelazione di eventi specifici" (Study of algorithms for real-time video analysis to perform the revelation of specific event).
- Survey on CCTV-specific algorithms for event detection: Face Detection, Line Crossing, People Counting, Motion Detection.
- Studied the implementation of motion detection algorithms on FPGA.

- Survey about High Dynamic Range and Wide Dynamic Range algorithms.
- Studied the implementation of exposure fusion algorithms using FPGA devices.
- Studied the implementation of focus evaluation algorithms on FPGA devices and their emulation using Matlab/Simulink.
- Implemented auto-exposure algorithms.
- Optic and Sensor qualification.

09/2007 – 06/2008

Research Contract at INFN on EURONS Projects

INFN – (Istituto Nazionale di Fisica Nucleare - National Institute for Nuclear Physics)– Sezione di Milano – Via Celoria 16, 20133, Milano, Italy.

- Study of algorithms for the Time of Flight Measurement using HpGe Detectors and High-Resolution Scintillators (LaBr3). The research activity is supported by the European Community (EURONS Projects)

01/2005 – 01/2007

Educational Grants at INFN

INFN – (Istituto Nazionale di Fisica Nucleare - National Institute for Nuclear Physics)– Sezione di Milano – Via Celoria 16, 20133, Milano, Italy .

- Design, development and test of a data acquisition system based on digital pulse shape acquisition in the CHIMERA international collaboration. The system is developed using C++ under Linux. The system is a distributed network of PC that online handle a data rate of 70MB/s in order to classify the products of a nuclear reaction.
- Measure in Nuclear Physics Experiment.
- Expertise in an electronic laboratory.
- Scientific Paper writing, participation and presentation to national and international conferences.

05/2003 – 12/2004

Educational Grants at UNIMI

Università degli studi di Milano – Dipartimento di Fisica - via Celoria 16, 20133 Milano, Italy.

- Design Develop and test a data acquisition system that allows the collection of pulse shape coming from nuclear physics detectors using digital pulse shape acquisition. A system composed of only 2 WorkStations, programmed in C++ under LINUX, able to store the pulse shape.
- Study of digital filtering and definition of charge and mass particle identification algorithms.
- Scientific Paper writing, participation and presentation to national and international conferences.

EDUCATION AND TRAINING

09/2004 – 02/2008

Ph.D. in Physics, Astrophysics, and Applied Physics

EQF 8

Università degli studi di Milano (University of Study of Milano)– Dipartimento di Fisica - via Celoria 16, 20133 Milano, Italy .

- Ph.D. obtained with the thesis: "*Digital Pulse Shape Analysis In Nuclear Physics Experiments With Intermediate Energy Heavy Ions*". Tutor: Prof.ssa Angela Bracco; CoTutor: Mauro Citterio.
- Defined new techniques for digital pulse shape analysis using semiconductor detectors and scintillators in order to identify charged particles.
- Implemented a data acquisition system to identify reaction products by mass and charge.

09/1996 - 02/2003

Master's Degree in Physics (Electronics and Cybernetics) 110/110

EQF 7

Università degli studi di Milano (University of Study of Milano)– Dipartimento di Fisica - via Celoria 16, 20133 Milano, Italy

- Thesis on "*Definizione di una macchina astratta ad oggetti conforme alle linee guida adottate dalle agenzie spaziali e relative al progetto di architetture di calcolo*" (*Definition of an abstract machine compliant with the guidelines of space agencies about computational architecture*), Supervisors: Prof. E.Spoletini (UNIMI) and Dott. G..Sechi (INAF).

OTHER COURSES AND CERTIFICATIONS

Educational and Training

- Game Trainer® certification – Centro Studi Erickson (June 2018)
- GAME MANAGEMENT TRAINING® by MAD di Marco Alberto Donadoni - in 2019, 2021, 2022
- Training in Theory of Constraints (TOC), with application to software development, system optimization, and team management (training by Siepe, Lepore 2017-2018)

Affiliations

- Member of the Game Research Center: https://gamescience.imtlucca.it/
- Member of SAZ (Spiele-Autoren-Zunft)
- Founder and President of Ludoteca Altomilanese APS (ludoteca-altomilanese.it)

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B1	B1	B2
No certification obtained.					

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills

- Strong communication skills developed through participation in national and international conferences.
- Strong writing skills developed through writing papers, theses, and technical reports.
- Strong interpersonal and empathy skills developed through professional and volunteer experience working with young people (ages 18–22).

Organisational / managerial skills

- Ability to coordinate teams and workgroups.
- Ability to manage last-minute issues, developed during CCTV system development and nuclear physics experiments.
- Strong teamwork skills developed through various professional and research activities.
- Experience working in international teams, developed during research activities and at Magneti Marelli.
- Ability to work independently to achieve defined objectives.

TECHNICAL SKILLS

Core Competencies
- Embedded Systems & Low-Level Development
- System Integration (HW/SW)
- Industrial Software Development (3D Printing, Automotive)
- Team Leadership & Agile Methodologies
- Multidisciplinary Problem Solving (electronics, optics, mechanics)
- Application of Theory of Constraints (TOC) to system optimization and problem-solving

Programming & Technologies
- Languages: C, C++, C#, MATLAB, JavaScript, Fortran, Assembly
- Embedded Systems: ARM, PowerPC, Linux-based and standalone systems
- FPGA: Xilinx (ISE, EDK), Lattice (ISPLever, Diamond)
- Cloud & Backend: AWS (EC2, S3, Lambda, API Gateway, CloudWatch, Rekognition)
- Mobile & Computer Vision: Android, iOS, OpenCV, card.io

Tools & Environments
- IDEs & Debuggers: Eclipse, KDevelop, Visual Studio, GDB, CodeComposer, Keil, Lauterbach, Green Hills MULTI
- Version Control & ALM: Git, Git-Flow, CVS, IBM Rational Synergy
- Project & Issue Tracking: Jira, Redmine, MS Project
- Hardware Design: OrCAD, CADSTAR

Industrial & Technical Domains
- Automotive Systems (FCA, VW platforms)
- Additive Manufacturing (SLM Metal 3D Printing)
- Computer Vision & Imaging Systems (CCTV)
- Digital Signal Processing & Filtering

- Communication Protocols: CAN, LIN, Modbus

AI & Development Tools
- Design and development of AI-based agents for task automation and problem-solving
- Use of AI-assisted programming tools to support software development, debugging, and prototyping
- Experience in integrating AI tools into development workflows and iterative design processes

Other skills
▪ Guitar playing..
▪ Static model building and painting..

Driving licence
▪ Italian B Driver License

ADDITIONAL INFORMATION

Publications

Author of more than 40 papers in national and international scientific journals

"Quixiliht: Un'esperienza di gioco per comprendere i Disturbi Specifici dell'Apprendimento (DSA)", A.Rizzi, M.Sassi - BGRM 2024 - Atti del Convegno, pgg 96-105.

"*Color blindness and modern board games*", A.Rizzi, M.Sassi - Electronic Imaging 2023 Conference Record.

"*A novel technique for the characterization of a HPGe detector response based on pulse shape comparison"* / F.C.L. Crespi, …, M. Sassi, …. - In: Nuclear instruments & methods in physics research. Section A, Accelerators, spectrometers, detectors and associated equipment. - ISSN 0168-9002. - 593:3(2008 Aug 11), pp. 440-447

"*CHIMERA data acquisition via digital sampling technique*", M Alderighi,..., M.Sassi, …In: Nuclear Science, IEEE Transactions on 51 (4), 1475-1481

"Charge identification in large area planar silicon detectors, using digital pulse shape acquisition"
M Alderighi,..., M.Sassi, …In: Nuclear Science, IEEE Transactions on 53 (1), 279-285

"Alpha-gamma discrimination by pulse shape in LaBr3:Ce and LaCl3:Ce" / F.C.L. Crespi, …, M. Sassi, ... - In: Nuclear instruments and methods in physics research. Section A, Accelerators, spectrometers, detectors and associated equipment. - ISSN 0168-9002. - ISSN 1872-9576. - 602:2(2009 Apr), pp. 520-524.

Proposed object-oriented architecture of a flexible small-scale system for digital pulse shape acquisition" / P. Guazzoni, F. Riccio, S. Russo, M. Sassi, L. Zetta. - In: IEEE transactions on nuclear science. - ISSN 0018-9499. - 53:3(2006), pp. 886-892. doi: 10.1109/TNS.2006.875067

Legnano, 11 Maggio 2025