

PERSONAL INFORMATION Matteo Sassi

WORK EXPERIENCE

12/2018 – now

Software Development Lead - R&D

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

- Responsible for the development of high level and embedded software, and testing of electronics of 3D SLM Metal Printer - PrintGenius 150.
 - Characterisation and qualification of sensors and devices used on PrintGenius 150.
 - Identifying and finding solutions to electronic, mechanical and optical problems during the development of the PrintGenius 150 printer.
 - Support for product installation and customisation according to customer requirements.
 - System Integrator
 - Part of the Design Team for the next generation Metal Printer models.
 - Service/Maintenance application developer.
- Settore 4.0 Industry, 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 regarding Social Nation web products.
 - Manage a team of 10 Software Engineers by using Theory of Constraint, DevOps, Continuous Integration and Delivery and Test Drive Development methodologies.
 - High-Level Requirement Analysis.
 - Supervision the integration process across BackEnd (Java), Android (Java), iOS (Swift3), Frontend (Angular-JS, javascript), BackOffice (Angular-JS, javascript), API gateway (swagger).
 - Direct Interaction with CEO.
 - Review and verification of the team activity and interaction with software quality responsible..
- 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.
 - Manage a team of 6 Engineers with Agile Scrum methodology by using Atlassian Toolchain
 - Remote manage teams over Italy, Germany, France, India for VW and FCA projects.
 - Report the activity of the team to the Software Project Leaders and to the Software Development Team Lead.
 - Review and verification of the team activity and interaction with software quality responsible.
 - Manage and Release BSP Platforms.
 - Manage Porting Activity.
- 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.

- Implementation of Vehicle Function for TFT Instrument Panel Clusters (Fiat 500, Jeep Renegade, Fiat 500x, Fiat Uno).
- Design and development of low-level drivers for Renesas Dx4 processors (LIN communication driver, 3.5" TFT control driver).
- Design and development of software components of FCA platforms.
- Responsible for development and integration of Dx4 and FCA platforms used worldwide for

- next-generation Instrument Panel Cluster.
 - Software Responsible for YBA project (Maruti-Suzuki XA Alpha)
 - Co-Design of cluster functionality with India Maruti-Suzuki XA Alpha cluster team.
 - Maruti-Suzuki XA Alpha cluster specification team leader.
- 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/>

- Design and implementation of an acquisition system based on CMOS and CCD sensors.
 - Development of solutions to increase image quality by reducing noise.
 - Development of algorithms for automatic exposure for CCTV systems.
 - Supervision the development of an in a loop test system based on Matlab for proprietary computer vision system.
 - Study and design of motion estimation algorithms.
 - Study of focus estimation algorithm with Matlab.
 - Supervision of case study for High Dynamic Range and Computer Vision Algorithms for CCTV embedded system.
 - Design and Development of CCTV cams based on ARM Linux embedded system, ad hoc software, bash scripting, implementation bootloader, and update procedure.
 - Development of SW library (Linux) and DLL (Windows) for the communication between the embedded systems and PCs.
 - Design, Development and Test of IR LED board for CCTV systems and implementation of algorithms for Day & Night.
 - Design, development and test of 2 megapixels CMOS based head for an endoscopic system with 4 high power LEDs.
 - Development and Test of a computer-based system that manages a synchronous acquisition from ten 1.2Mpixel 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 a technical team leading.
 - Analysis of customer technical requirements and realization of feasibility studies.
 - Verification of prototype electronic schematics. Prototypes test. Definition of the production test procedure. Definition of the product quality test procedure.
 - 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 Roleplay games for 18-22 years-old people;
- Business or sector Education and Service (Terzo Settore - Voluntary sector)

TEACHING

- 03/2024 - in progress **Responsible at Workshop POLITO Design Workshop - Grow by Playing**
 During the Design Workshop Week I was one of the responsible of the workshop "Grow by Playing" where students learn how to create/modify a game to use in 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 performed to "Cooperativa il Girasole", Castiglione Olona (Va). The focus was how to use board game and video game as empowerment tool with significant cognitive deficits.
- 03/2019 **Corsi di Formazione per Educatori - IAL Lombardia**
 The Course was performed to "Scuola Materna SS Redentore", Legnano (Mi). The focus was how to use board game as empowerment tool with kids of nursing school and define a set of workshop during the year to perform the activities..
- 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

RESEARCH ACTIVITIES

- 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.
- The title of the grant is: "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 about CCTV specific algorithms for event detection: Face Detection, Line Crossing, People Counting, Motion Detection.
 - Study of implementation in FPGA of Motion Detection Algorithm.
 - Survey about High Dynamic Range and Wide Dynamic Range algorithms.
 - Study of implementation in FPGA of Exposure Fusion Algorithms
 - Study of implementation of Focus Evaluation Algorithms in an FPGA device and emulation using Matlab/Simulink.
 - Implementation of 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 (University of Study of 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 .

- PhD 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.
- Definition of new techniques of digital pulse shape analysis using semiconductor detectors and scintillators in order to identify charged particles.
- Implementation of a data acquisition system to identify in mass and charge the reaction products.

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® by Centro Studi Erickson - done in June 2018
- GAME MANAGEMENT TRAINING® by MAD di Marco Alberto Donadoni - in 2019, 2021, 2022

Affiliations

- Member of Game Research Center: <https://gamescience.imtlucca.it/>
- Member of SAZ (Spiele-Autoren-Zunft)

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

- Good communication skills gained through my experience in national and international conferences.
- Good writing skills gained writing papers, thesis and technical reports.

| | |
|------------------------------------|--|
| Organisational / managerial skills | <ul style="list-style-type: none"> • Good empathy skills gained in managing young people (18-22) during Professional and Volunteers education experience. • Capability to coordinate a team/workgroup. • Capability to manage last-minute problems that I gained during the development of CCTV cameras and during nuclear physics experiments. • Capability to work in a team gained in different works and during the research activities. • Capability to work in an international team gained during research experience and in the MM activities. • Capability to work individually to reach a defined scope. |
| Job-related skills | <ul style="list-style-type: none"> • Good Knowledge of project management tools (Redmine, Atlassian Jira, MS Project). • Good Knowledge of Agile, ToC and Continuous Integration/Delivery methodologies. • Knowledge of AWS cloud environment (API Gateway, Cloudwatch, EC2, Elastic BeanStalk, S3, SES, SNS..) • Knowledge in Mobile Computer Vision (Android/iOS framework, card.io, openCV); • Knowledge in Mobile Development Tools (Android Studio, X-Code) • Good knowledge of programming languages (C, C++, C#, Fortran, Matlab, Assembler, Javascript). • Base knowledge of mobile programming languages: Java, Swift, Python • Good knowledge of AWS platform (API Gateway, EC2, S3, CloudWatch, Rekognition, Lambda) • Good knowledge of software development IDE and Debugger (Eclipse, KDevelop, DevC++, Keil C51 Compiler, Raisonace RCA51, MonoDevelop, Codeblock, GDB, CodeComposer, Borland CBuilder, Borland Kylix, and Microsoft Visual Studio 2010-2019). • Good knowledge of CAN Bus e LIN Bus e MODBUS. • Good knowledge of embedded system debugger (Lauterbach and Green Hills Multi). • Good knowledge of version control software of software management system (Git, Git-Flow, IBM Rational Synergy, and CVS). • Good knowledge of change management systems (Redmine, IBM Rational Change, and JIRA the Atlassian Agile toolchain). • Capability to use software for schematics design and PCB routing (ORCAD e CADSTAR). • Capability to use IDE tools for FPGA (Xilinx ISE, Xilinx EDK, Lattice ISPLever, Lattice Diamond). • Capability to design and implement embedded systems (Linux Base or Stand-Alone). • Knowledge about Hardware and Software Fault Tolerance Design and computing. • Good knowledge about digital signal processing and digital filtering. • High-level capability to use electronic instrumentation (Signal Generator, Oscilloscopes, TLA, etc) |
| Other Courses | <ul style="list-style-type: none"> • certified by Centro Studi Erickson as Game Trainer ® in June 2018 • GAME MANAGEMENT TRAINING® by MAD di Marco Alberto Donadoni in 2019 |
| Other skills | <ul style="list-style-type: none"> • Play guitar. • Static Model Building and Painting. |
| Driving licence | <ul style="list-style-type: none"> • Italian B Driver License |

ADDITIONAL INFORMATION

TableTop I had a blog that speaks about the use of TableTop Games as educational instruments and I wrote on an Italian magazine that specialized in board games.
<https://educereludendo.blogspot.it/>
<https://medium.com/@matteosassi>
<https://boardgamegeek.com/blog/6561/educere-ludendo>

Freelance Columnist to ioGioco Magazine since 2017

Board Games Designer I started to design and develop board games in early 2017.
 I'm the national coordinator of the Italian Board Game Designer event IDEAG (about 20 events for a year) and chief of organisation of IDEAG 2024.
 I won the Lucca Comics & Games - Gioco Inedito 2022 and publish the game **Papyrus** (2022).

Gioco Inserto - Album delle figurine - **Me contro Te: Missione Giungla** (01/2023).
 Gioco per la promozione della sana nutrizione sviluppato per Red Glove su commissione di iCARE - Viareggio e distribuito nelle scuole elementari della città:
Meal Deal (02/2024)

Publications More than 40 papers on national and international scientific journals, in particular:

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

"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, 09 April 2024