MATTIA GIANOTTI

07/11/1992

POLITECNICO DI MILANO
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LANGUAGES 🇮🇹 🇬🇧

I am Mattia Gianotti, a **Junior Researcher at Politecnico di Milano** (i3Lab: https://i3lab.polimi.it/).
I have completed my Ph.D. and have become an expert in Interactive Smart Spaces and Multi-Sensory Environments. Since obtaining my Master's degree, I have passionately dedicated myself to applying technology for the well-being of others in various ways, particularly utilizing IoT technologies.

Please find below the links to websites showcasing my best projects:

https://ludomi.polimi.it/en/ludomi-welcome/

https://5a.polimi.it/

WORK EXPERIENCE_

25/05/2017
– 04/08/2017

CONSULTANT @BLUE REPLY

Development of Web Portals with IBM technology (Websphere portal e Web Content manager)

01/01/2020
– 01/10/2023

RESEARCH FELLOW @DEIB

INNOVATIVE INTERACTIVE INTERFACE LABORATORY (I3LAB) – DEPARTMENT OF ELECTRONIC, INFORMATION AND BIOENGINEERING (DEIB) AT POLITECNICO DI MILANO

I am a Research Fellow at I3Lab (https://i3lab.polimi.it/) under the supervision of Prof. Franca Garzotto. Throughout my tenure, I have been involved in various national (LUDOMI, Next Generation UPP) and international research projects, assuming leadership roles in several of them. These include work package leadership in international projects such as INCLUDE, Sara ++, and PLET, as well as work package and task leadership in national projects such as 5A and ACTIVE3.
Additionally, I have contributed to the field through the publication of 20 research papers in esteemed international conferences and journals. Sharing my knowledge, I have also served as a teaching assistant, imparting expertise in Internet of Things, Smart spaces, Virtual Reality, Augmented Reality, and Conversational Agents technologies to Master Degree students across various curriculums.

01/09/2022
– 01/10/2023

ADJUNCT PROFESSOR @POLITECNICO DI MILANO

As an Adjunct Professor at Politecnico di Milano, I have had the privilege of contributing to the academic community and fostering the growth of students.

During my tenure, I have developed and taught courses of Laboratorio di Computer Grafica – Modulo Informatica Applicata in Bachelor program for Design school, covering topics such as the creation and management of online videogames using Phaser3 framework and 3D rendering technology to create a narrative involving artifacts to communicate social themes such as UN SDGs. Through innovative teaching methods and hands-on projects, I have encouraged critical thinking, problem-solving, and practical application of theoretical concepts.

MATTIA GIANOTTI_CV

01/09/2022
— PRESENT

JUNIOR RESEARCHER @POLITECNICO DI MILANO

As a Junior Researcher at Politecnico di Milano, I have had the privilege of contributing to the academic community and fostering the growth of students. During my tenure, I continued teaching the course "Laboratorio di Computer Grafica – Modulo Informatica Applicata" in the Bachelor program for the Design School. Based on student feedback, I developed a wrapper around the Phaser3 framework to ease the development process. Through innovative teaching methods and hands-on projects, I have encouraged critical thinking, problem-solving, and the practical application of theoretical concepts, focusing on the Sustainable Development Goals (SDGs).

I also had the opportunity to teach the "Final Design Studio - Technologies for Connected Products and Systems" course in the Master's program for Digital and Interaction Design – Scuola del Design. In this course, I was involved in a multidisciplinary group project-oriented course aimed at describing cutting-edge interactive technology and providing support for students to create a working prototype to be exhibited at a fair.

Finally, I had the opportunity to teach the course "Laboratorio di Sintesi Finale - Digital Interactive Technologies for Physical Interfaces" in the Master's program for Product Design. In this course, we opted for individual projects that merged company requirements, cutting-edge embedded technologies, and sustainability objectives in the definition of a prototype.

EDUCATION AND TRAINING_

2010 – 2014

BACHELOR DEGREE IN INGEGNERIA INFORMATICA @POLITECNICO DI MILANO

Score 93/110

2014
— 28/04/2017

MASTER DEGREE IN COMPUTER SCIENCE AND ENGINEERING – INGEGNERIA INFORMATICA @POLITECNICO DI MILANO

Master Thesis title: **Rehabilitation Games for Juvenile Rheumatic Disease to Knees and Ankles**

Score: 107/110

21/02/2022

01/09/2017
— 20/07/2021

PHD WITH HONORS (MULTISENSORY MULTIMODAL INTERACTION TECHNOLOGY AND DESIGN FOR PEOPLE WITH NDD) @POLITECNICO DI MILANO, I3LAB

Joint Ph.D. program between Computer Science and Engineering and Design

The research explores emerging technologies and design methods for creating new IoT (Internet of Things)-enhanced multisensory interventions for individuals with Neurodevelopmental Disorders NDD). This interdisciplinary doctoral project combines Information Engineering and Design. Due to its inherent nature, this research requires an interdisciplinary approach at the intersection of ICT Engineering, Product Design, and Interaction Design. It involves a strong technological know-how, engineering methods, Design Thinking, and a Lean UX approach. https://i3lab.polimi.it/

P.h. D. Thesis title: **Smart Multisensory Environments for Children with Neurodevelopmental Disorders**

ABILITAZIONE ALLA PROFESSIONE DI INGEGNERE (ESAME DI STATO) @POLITECNICO DI MILANO

PUBLICATIONS_

2018   Gelsomini, M., Rotondaro, A., Cosentino, G., **Gianotti, M.**, Riccardi, F., & Garzotto, F. (2018, November). **On the effects of a nomadic multisensory solution for children's playful learning**. In Proceedings of the 2018 ACM International Conference on Interactive Surfaces and Spaces (pp. 189-201).

DOI: https://doi.org/10.1145/3279778.3279790

2019   Garzotto, F., Gelsomini, M., **Gianotti, M**., & Riccardi, F. (2019). **Engaging children with neurodevelopmental disorder through multisensory interactive experiences in a smart space**. Social Internet of Things, (pp. 167-184).

DOI: https://doi.org/10.1007/978-3-319-94659-7_9

Cosentino, G., Leonardi, G., Gelsomini, M., Spitale, M., **Gianotti, M**., Garzotto, F., & Arquilla, V. (2019, March). **GENIEL: an auto-generative intelligent interface to empower learning in a multi-sensory environment**. In Proceedings of the 24th ACM International Conference on Intelligent User Interfaces (IUI): Companion (pp. 27-28).

DOI: https://doi.org/10.1145/3308557.3308685

Gelsomini M., Cosentino G., Spitale M., **Gianotti M**., Fisicaro D., Leonardi G., Riccardi F., Piselli A., Beccaluva E., Bonadies B., Di Terlizzi L., Zinzone M., Alberti S., Rebourg C., Carulli M., Garzotto F., Arquilla V., Bisson M., Del Curto B., Bordegoni M. (2019, May). **Magika, a multisensory environment for play, education and inclusion**. In Extended abstracts of the 2019 ACM CHI conference on human factors in computing systems (pp. 1-6).

DOI: https://doi.org/10.1145/3290607.3312753

Cosentino G., **Gianotti M**., Gelsomini M., Garzotto F., Arquilla V. (2019 June) **Environment fostering children's well being** – In Proceedings of the 3rd International Conference on Environmental Design 2019, published Mediterranean Design Association (MDA) (pp. 305-312). (No. 1376).

URL: https://wwww.easychair.org/publications/preprint_download/KWXV

Crovari, P., **Gianotti, M**., Riccardi, F., & Garzotto, F. (2019, September). **Designing a smart toy: guidelines from the experience with smart dolphin" SAM"**. In Proceedings of the 13th ACM Biannual Conference of the Italian SIGCHI Chapter: Designing the next interaction (CHIItaly) (pp. 1-10).

DOI: https://doi.org/10.1145/3351995.3352041

2020   **Gianotti, M**., Riccardi, F., Cosentino, G., Garzotto, F., & Matera, M. (2020, October). M**odeling interactive smart spaces.** In Conceptual Modeling: 39th International Conference, ER 2020, Vienna, Austria, November 3–6, 2020, Proceedings (pp. 403-417). Cham: Springer International Publishing.

DOI: https://doi.org/10.1007/978-3-030-62522-1_30

Garzotto, F., Beccaluva, E., **Gianotti, M**., & Riccardi, F. (2020, April). I**nteractive multisensory environments for primary school children**. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (pp. 1-12).

DOI: https://doi.org/10.1145/3313831.337634

Cosentino, G., **Gianotti M**., Riccardi, F., & Garzotto, F. (2020, June). **Empowering caregivers in multisensory smart spaces for education and therapy**. In Workshop EMPATHY at ACM International Conference on Advanced Visual Interfaces (AVI), ACM (pp. 31-36).

URL: http://ceur-ws.org/Vol-2702/EMPATHY_2020_paper_6.pdf

Gianotti, M., Riccardi, F., Cosentino, G., Garzotto, F., & Matera, M. (2020 June). C**onceptual Modeling of Multisensory Smart Spaces.** In Workshop EMPATHY at ACM International Conference on Advanced Visual Interfaces (AVI), ACM (pp. 25-30).

URL: https://ceur-ws.org/Vol-2702/EMPATHY_2020_paper_5.pdf

2022

Vona, F., **Gianotti, M**., Patti, A., Barbieri, J., Moskwa, L., Di Gioia, F. R., & Garzotto, F. (2022 June). **Improving the daily autonomy of people with Autism Spectrum Disorder through Virtual and Augmented Reality.** In Workshop Enhancing Cross-Reality applications and user experiences at ACM International Conference on Advanced Visual Interfaces (AVI)

URL: https://cr-workshop.github.io/papers/vona2022-improving.pdf

Vona, F., **Gianotti, M**., Patti, A., Barbieri, J., Moskwa, L., Di Gioia, F. R., & Garzotto, F. (2022, June). **Combining Virtual and Augmented Reality to improve daily autonomy for people with Autism Spectrum Disorder**. In Proceedings of the 2022 ACM International Conference on Advanced Visual Interfaces (AVI) (pp. 1-3).

DOI: https://doi.org/10.1145/3531073.3534499

Beccaluva, E., Riccardi, F., **Gianotti, M**., Barbieri, J., & Garzotto, F. (2022). **VIC—A Tangible User Interface to train memory skills in children with Intellectual Disability.** International Journal of Child-Computer Interaction, 32, (pp. 1-13) .

DOI: https://doi.org/10.1016/j.ijcci.2021.100376

Giudici, M., Beccaluva, E., **Gianotti, M.,** Barbieri, J., Caslini, G., & Garzotto, F. (2022, June). **A Pilot Study on Interactive Multisensory Environments for Neuropsychological Assessment**. In Proceedings of the 2022 ACM International Conference on Advanced Visual Interfaces (pp. 1-5).

DOI: https://doi.org/10.1145/3531073.3531169

Ghiazzi, S., Riva, S., **Gianotti, M**., Crovari, P., & Garzotto, F. (2022, June). **MagicMuseum: Team-based Experiences in Interactive Smart Spaces for Cultural Heritage Education**. In Proceedings of the 2022 International Conference on Advanced Visual Interfaces (pp. 1-3).

DOI: https://doi.org/10.1145/3531073.3534488

Komarova, S., **Gianotti, M**., Atanassov, A., Bordonaro, G., Rousseau, C., Goldschmidt, M., ... & Garzotto, F. (2022, June). **Investigation and perspectives about the promoting creativity to children with ASD in a Multisensory environment Magic Room. Generative game "Explora!".** In International Conference EdMedia+ Innovate Learning (pp. 696-710). Association for the Advancement of Computing in Education (AACE).

URL: https://www.learntechlib.org/p/221360/

2023

Secco M., **Gianotti M**., Garzotto F., Colombo A. (2023, August). **Multisensory Climbing in the Magic Room**. In Proceedings of IFIP 2023 International Conference Interact.

DOI: https://doi.org/10.1007/978-3-031-42293-5_68

Gianotti M., Patti A., Vona F., Pentimalli F., Barbieri J., Garzotto F. (2023 July). **Multimodal Interaction for Persons with Autism: The 5A Case Study**. In Proceedings of HCI INTERNATIONAL 2023 25th International Conference on Human-Computer Interaction, Cham: Springer International Publishing.

DOI: https://doi.org/10.1007/978-3-031-35681-0_38

2024   Garzotto, F., Gianotti, M., Patti, A., Pentimalli, F., Vona, F (2024 May). **Empowering Persons with Autism through Cross-Reality and Conversational Agents**. In IEEE Transactions on Visualization and Computer Graphics, vol. 30, no. 5, pp. 2591-2601 IEEE International Publishing.

DOI: https://doi.org/10.1109/TVCG.2024.3372110

Bauer, V., Padovano, T., Gianotti, M., Caslini, G., Garzotto, F. (2024 May). **MusicTraces: A collaborative music and paint activity for autistic people**. In Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems (CHI EA '24)

DOI: https://doi.org/10.1145/3613905.3651101

Gianotti, M., Marini, M. C., Beccaluva, E. A., Marulli, M. M., De Meis, I., Tomaiuoli, D., Garzotto, F. (2024 May). **Multisensory Training Intervention for Hearing Impaired Children: Preliminary Results of a Pilot Study**. In Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems (CHI EA '24)

DOI: https://doi.org/10.1145/3613905.3650734

PARTICIPATION AND MANAGEMENT OF NATIONAL AND INTERNATIONAL RESEARCH PROJECTS_

MANAGEMENT OF INTERNATIONAL RESEARCH PROJECTS

JANUARY – DECEMBER 2022

INCLUDE – AI ENHANCED MOBILE SOLUTIONS FOR CHARITIES
PERIOD TIME OF THE PROJECT: JANUARY–DECEMBER 2022

Role: **WP leader** "A2202: Technical Solution/MVP"

Funding Institution: **EC**

Funding Program: EIT Digital

JANUARY – DECEMBER 2021

SARA++ – SMART SOCIAL ROBOTS FOR THE ELDERLY
PERIOD TIME OF THE PROJECT: JANUARY–DECEMBER 2021

Role: **WP Leader** "A2102: Technical Solution/MVP"

Funding Institution: **EC**

Funding Program: EIT Digital

JANUARY – DECEMBER 2018

PLET – PROJECT LIFE MANAGEMENT FOR E- TOYS #18085-2018
PERIOD TIME OF THE PROJECT: JANUARY–DECEMBER 2018

Role: **WP Leader** "WP A1804 - Gateway and Data acquisition from e-toys"

Funding Institution: **EC**

Funding Program: EIT Digital

MANAGEMENT OF NATIONAL RESEARCH PROJECTS

DECEMBER 2022
– PRESENT

ACTIVE3 — EVERYONE, EVERYWHERE, EVERYDAY
PERIOD TIME OF THE PROJECT: OCTOBER 2022–SEPTEMBER 2024

Role: **Task Leader** WP3 "Platform for inclusion"/Task 1: . Multisensory Spaces

Funding Institution: **Fondazione Cariplo and Regione Lombardia**

Funding Program: Emblematic Program

JANUARY 2022
– MARCH 2023

5A – AUTONOMIE PER L'AUTISMO ATTRAVERSO REALTÀ VIRTUALE, REALTÀ AUMENTATA, E AGENTI CONVERSAZIONALI
PERIOD TIME OF THE PROJECT: MARCH 2021–MARCH 2023

Role: **WP Leader** "WP3: Development of prototype 1"; "WP5: Development of prototype 2"; "WP7: Engineering

Funding Institution: **TIM Foundation**

Funding Program: Programma TIM "Liberi di Comunicare"

PARTICIPATION IN NATIONAL RESEARCH PROJECTS

DECEMBER 2022
- SEPTEMBER2023

NEXT GENERATION UPP
PERIOD TIME OF THE PROJECT: SEPTEMBER 2022–SEPTEMBER 2023

Role: **Participant "**WP 1.3 Interface Development"

Funding Institution: **Italian Ministry of Justice**

Funding Program: PON- Governance e Capacità istituzionale – Asse I-Azione 1.4.1

NOVEMBER 2017
- FEBRUARY 2019

LUDOMI – SMART MULTISENSORY SPACES FOR CHILDREN WITH INTELLECTUAL DISABILITY
PERIOD TIME OF THE PROJECT: MARCH 2017–FEBRUARY 2019

Role: **Participant** "WP4: Smart Space Platform Development"

Funding Institution: **Politecnico di Milano**

Funding Program: Polisocial Award 2017

MATTIA GIANOTTI_CV

CONFERENCES_

21/04/2018
— 26/04/2018

MONTREAL
CHI Conference on Human Factors in Computing Systems

04/05/2019
— 09/05/2019

GLASGOW
CHI Conference on Human Factors in Computing Systems

25/04/2020
— 30/04/2020

HONOLULU
CHI Conference on Human Factors in Computing Systems

03/11/2020
— 06/11/2020

VIENNA
ER Conference International Conference on Conceptual Modeling

06/06/2022
— 10/06/2022

FRASCATI, ROME
AVI 2022 International Conference on Advanced Visual Interfaces

11/05/2024
— 16/05/2024

HONOLULU
CHI Conference on Human Factors in Computing Systems

SPEAKER TO CONFERENCES_

03/11/2020
— 06/11/2020

ER CONFERENCE (ONLINE)
Modeling interactive smart spaces. In Conceptual Modeling: 39th International Conference, ER 2020, Vienna, Austria, November 3–6, 2020, Proceedings (pp. 403-417). Cham: Springer International Publishing.
DOI: https://doi.org/10.1007/978-3-030-62522-1_30

05/07/2022
— 06/07/2022

AVRA CONFERENCE (ONLINE)
Invited speaker at AVRA Applications of Virtual Reality in Autism Research Confernce 2022, On the topic of Mixed Reality for Autism Spectrum Disorder People.

30/10/2023

AVRA CONFERENCE (ONLINE)
Invited speaker at AVRA Applications of Virtual Reality in Autism Research Confernce 2023, On the topic of Mixed Reality for Autism Spectrum Disorder People.

AWARDS_

BEST POSTER AWARD
24th International Conference on Intelligent User Interfaces: Companion IUI 2019 Conference - GENIEL: an auto-generative intelligent interface to empower learning in a multi-sensory environment –
DOI: https://doi.org/10.1145/3308557.3308685

MATTIA GIANOTTI_CV

TEACHING EXPERIENCE_

AA 2023-2024 – PRESENT

JUNIOR RESEARCHER

Course: Final Design Studio - Technologies for Connected Products and Systems in master program for Digital and Interaction Design – Scuola del Design (3 CFU) - AA 2023-2024

Course: Final Design Studio - Technologies for Connected Products and Systems in master program for Digital and Interaction Design – Scuola del Design (3 CFU) - AA 2024-2025

Course: Laboratorio di Sintesi Finale sez. 1 - Digital Interactive Technologies for Physical Interfaces – Scuola del Design (3 CFU) - AA 2023-2024

AA 2022-2023

ADJUNCT PROFESSOR

Course: Laboratorio di Computer Grafica – Modulo Informatica Applicata in Bachelor program for Design school (5 CFU)

AA 2020-2021 – PRESENT

TEACHING ASSISTANT IN THE FOLLOWING MASTER PROGRAM COURSES IN COMMUNICATION DESIGN:

Applied Informatics (Prof. Franca Garzotto) - AA 2020-2021

Applied Informatics (Prof. Franca Garzotto) - AA 2021-2022

Applied Informatics (Prof. Franca Garzotto) - AA 2022-2023

AA 2017-2018 – PRESENT

TEACHING ASSISTANT IN THE FOLLOWING MASTER PROGRAM COURSES IN COMPUTER SCIENCE AND ENGINEERING:

Advanced User Interfaces (Prof. Franca Garzotto) - AA 2017-2018

Hypermedia Applications (Prof. Franca Garzotto) - AA 2017-2018

Advanced User Interfaces (Prof. Franca Garzotto) - AA 2018-2019

Hypermedia Applications (Prof. Franca Garzotto) - AA 2018-2019

Advanced User Interfaces (Prof. Franca Garzotto) - AA 2019-2020

Hypermedia Applications (Prof. Franca Garzotto) - AA 2020-2021

Advanced User Interfaces (Prof. Franca Garzotto) - AA 2020-2021

Hypermedia Applications (Prof. Franca Garzotto) - AA 2021-2022

Advanced User Interfaces (Prof. Franca Garzotto) - AA 2021-2022

Advanced User Interfaces (Prof. Franca Garzotto) - AA 2022-2023

Advanced User Interfaces (Prof. Franca Garzotto) - AA 2023-2024

Advanced User Interfaces (Prof. Franca Garzotto) - AA 2024-2025

MATTIA GIANOTTI_CV

TEACHING ASSISTANT IN THE FOLLOWING BACHELOR PROGRAM COURSES IN COMMUNICATION DESIGN:

Laboratorio di Computer Grafica – Modulo Informatica Applicata (Prof. Federico Reghenzani) - AA 2023-2024

Laboratorio di Computer Grafica – Modulo Disegno Digitale (Prof. Maresa Bertolo) - AA 2023-2024

Laboratorio di Computer Grafica – Modulo Informatica Applicata (Prof. Federico Reghenzani) - AA 2024-2025

2018
- PRESENT
SUPERVISION OF MASTER THESIS

2018 Matteo Virtuani (Communication Design) - *EOM System Elicitation of Olfactory Memory System. A new rehabilitation experience for children with NDD and ASD*

2018 Andrea Paramithiotti (Computer Science and Engineering) - *GENPLAY: GENERATIVE PLAYSCAPE*

2021 Mattia Bacarella, Diego Costanzelli (Computer Science and Engineering) - *LiTouch: Smart Interface for User Interaction on Large Screens*

2021 Eva Baldasseroni, Giacomo Caslini (Computer Science and Engineering) - *Coding Experiences for Children in an Interactive Smart Space*

2021 Mathyas Giudici (Computer Science and Engineering) - *BrainTraining: a suite of neuropsychological games in the Magic Room*

2021 Andrea Rotella (Biomedical Engineering) - *Engineering human connections in the Magic Room: from emotion recognition to affective synchronies visualization*

2021 Simone Ghiazzi, Stefano Riva (Computer Science and Engineering) – *Magic Museum: a Team based Interactive Customizable Museum Experience in Interactive Smart Spaces*

2022 Leonardo Guerra, Martino Manzolini (Computer Science and Engineering) – *Improving the daily autonomy of autistic person in urban mobility through Augmented Reality and Conversational Agents*

2022 Clarence Antichi, Federico Alterio (Computer Science and Engineering) – *Oceania: exploring social interactions and creativity through a multisensory environment game application*

2023 Caterina Merendi (Design and Engineering) – *From PeekABook to Storiello A Storytelling journey*

2023 Sara Cardettini (Design and Engineering) – *PeekABook and Beyond: Interactive Storytelling with Minimito*

2024 Yiyuan Hu (Comunication Design) – *Interactrive storytelling for raising social awareness on children with ASD*

2024 Harry Denis Foley (Computer Science and Engineering) – *Use of Augmented Realityfor musical therapy to enhance attention skills of ASD people*

RESEARCH PERIOD ABROAD_

03/12/2019
– 12/03/2020

UNIVERSITAT POMPEU FABRA – BARCELONA

I spent 4 months at Universitat Pompeu Fabra (UPF) under the supervision of prof **Narcis Pares** at European Media and Immersion **Lab EMIL** (https://emil-xr.eu/)

At UPF I have worked on evolution of the notorious project **Lands of Fog** to create an engaging, open ended cooperative exploratory experience called **Spark** based on a generative approach in response to autistic users cooperative behaviors. Within our studies we have measured promising results in supporting social skills development to a larger extend than Lands of Fog, both in terms of efficacy and longer exposure interest. Study was unfortunately interrupted by Covid-19 outbreak.
The planned period abroad was of 8 months, however due to Covid-19 pandemic, it has to be interrupted earlier than the predefined time.

PERSONAL DATA_

I hereby authorize the use of my personal data in accordance to the GDPR 679/16 - "European regulation on the protection of personal data".

Autorizzo al trattamento dati ai sensi del GDPR 2016/679 del 27 aprile 2016 (Regolamento Europeo relativo alla protezione delle persone fisiche per quanto riguarda il trattamento dei dati personali).

Autorizzo la pubblicazione del Curriculum Vitae sul sito istituzionale del Politecnico di Milano (sez. Amministrazione Trasparente) in ottemperanza al D. Lgs n. 33 del 14 marzo 2013 (e s.m.i.).