

University Academic Curriculum Vitae

Personal information

Name: Rachele Didero

Education since leaving school

- **First degree:** 2018, Fashion Design, *Politecnico di Milano*. 110/110
- Visiting:
(2016-2017) Fashion Design and Management. *Escola Superior de Disseny ESDi, Barcelona, Spain*.
- **Post-graduate degrees:** 2020, Design for the Fashion System, *Politecnico di Milano*. 110/110 L
- Visiting:
(2019) Textile and Fashion Design and Management. *Fashion Institute of Technology, New York, NY, USA*.
(2020) Industrial and Textile Design. *Shenkar College of Engineering, Design and Art, Tel Aviv, Israel*
- **PhD:** 2025, Design, *AI Surfaces for Data Privacy, the role of the textile designer*. *Politecnico di Milano*
- Visiting:
(2023-2024) MIT Media Lab, Tangible Media Group. *Massachusetts Institute of Technology, Cambridge, MA, USA*.

Professional experience

Chronological list of all previous employments (each with job title, starting and finishing dates, level, employer, responsibilities)

From / to	Job title	Name of academic Institution / Company	Academic level	responsibilities
01/09/2025 - Present	RTD-A Researcher (Tenure-Track Assistant Professor)	<i>Free University of Bozen-Bolzano, Faculty of Engineering (Bolzano, Italy)</i>	RTD-A (Junior Researcher)	Teaching the courses <i>Engineering of Mobile Systems</i> (Bachelor's in Computer Science) and <i>Research Methods</i> (PhD in Computer Science and Engineering); developing research on AI-resistant interfaces and next-generation physical-digital interactions; coordinating interdisciplinary research projects in collaboration with industry and academic partners.
10/2025 – 10/2025	Adjunct Professor	<i>Politecnico di Milano (Milan, Italy)</i>		Teaching the course <i>Textiles beyond fashion. Integrating new technologies and sustainable practices through textile design – Workshop 1</i> (Master's in Design for the Fashion System, 1st semester a.y.

				2025/2026); guiding students through systemic design approaches integrating textile, technology, and cultural innovation within project-based learning.
01/2021 - Present	Co-Founder	<i>Capable srl (Turin, Italy)</i>		<p>Leading a design-tech company pioneering machine learning, adversarial design, and textile innovation to develop identity-protecting surfaces. Key activities include:</p> <ul style="list-style-type: none"> - <i>Innovation and Interdisciplinary Development</i> Designed AI-driven adversarial textiles and surfaces by integrating machine learning, surface engineering, and textile design, creating scalable solutions to safeguard identity and counter surveillance across mobility, defense, and design sectors. - <i>Leadership and Dissemination</i> Directed cross-disciplinary teams, established collaborations with academic, industry and institutional leaders, and disseminated innovations through international keynotes, exhibitions, media, and publications.
05/2024 - 12/2024	Freelance Designer	<i>Urban AI (Paris, France)</i>		Developing screenless, low-tech installations that integrate urban data into physical environments. Current projects include thermal comfort indicators in Bordeaux and decarbonized electricity visualizations in Paris, fostering transparency and citizen engagement.
01/2024 - 12/2024	Artist in Residence	<i>International Association for Privacy Professionals (IAPP) (Portsmouth, NH, USA)</i>		Provided original artwork and illustrations for IAPP's promotional materials and visual identity through creative direction, while contributing through keynotes, workshops, and community engagement.
10/2022 - 04/2023	Research Internship	<i>Colombo Industrie Tessili S.r.l., (Fino Mornasco, Italy)</i>		Worked on developing woven adversarial textiles using their advanced software and looms to integrate cutting-edge design with textile innovation.
03/2021 - 09/2021	Freelance Designer	<i>Lampoon Publishing House (Milan, Italy)</i>		Collaborator for the creation and production of a limited edition knitwear line. Capsule designer and technical manager.
06/2019 - 09/2019	Fashion Design Intern	<i>Komar (Jersey City, NJ, USA)</i>		Designed for the Intimate Apparel division, focusing on product development and market research.
06/2017 - 09/2017	Fashion Design Intern	<i>Otaduy (Barcelona, Spain)</i>		Supported the creative and technical process, developed embroidered fabrics for haute couture, collaborated on technical sheets.
01/2016 - 01/2019	Graphic Designer	<i>Lis d'Oc (Borgone di Susa, Italy)</i>		Documented the production process through photo shoots and designed marketing materials, including flyers, brochures, menus, labels, and posters.

Participation in exhibitions (where applicable)

In the case of practice-related projects carried out in co-operation with studios, agencies or other people, please specify your own contribution to and role in the project.)

Where applicable: Design competitions and awards received (Only list competitions that were won or those with a relevant placement and/or award, with name and date of competition)

List of major exhibitions, Title, date, location:

2025 Permanent Design Collection

M+ Museum

Approved acquisition of *Capable*'s archive as part of its permanent design collection, recognizing innovation in AI-resistant textiles and ethical fashion practices.

West Kowloon Cultural District, Hong Kong.

2025 Exhibitor and Speaker

TIPO – The Industrial Tourism Prato Festival

Participated in public programming on textile innovation, industrial heritage, and AI-enhanced fashion practices within Europe's largest textile district.

*Giovanni & Giuseppe Masi Archive,
Prato, Italy.*

2024 Award

Technology Forum Award for Innovation

Awarded by The European House Ambrosetti (TEHA)

2024 Exhibitor

Natural Intelligence Exhibition

*The Hive Gallery and Studios
Los Angeles, CA, USA*

2024 Exhibitor and Speaker

The Screenless City Conference

Embodying Urban AI Session

*Urban AI - Sorbonne Center for Artificial Intelligence
Paris, France*

2024 Exhibitor and Speaker

Fashion for Future Conference

Digital Transformation Session "AI and Design: Safeguarding Human Identity in a World of Machines"

*Polo Universitario Città di Prato (PIN), Made in Italy Tuscan Academy (MITA), Made in Italy Circolare e Sostenibile (MICS)
Scandicci, Italy*

2024 Exhibitor and Speaker

Cambridge Science Festival Exhibition

"Electric Skin: Wearable Tech and The Future of Fashion" *MIT Museum*

Cambridge, MA, USA

2024 Exhibitor and Speaker

Global Privacy Summit IAPP 2024 Congress

International Association for Privacy Professionals (IAPP)

Washington D.C., USA

2024 Exhibitor and Speaker

Fundamental Rights Forum Congress

The European Union Agency for Fundamental Rights. International Association for Privacy Professionals (IAPP)

Vienna, Austria

2023 - 2024 Exhibitor

Italy: a New Collective Landscape Exhibition

35 Designers Under 35

ADI Design Museum; Hong Kong Design Institution; Shanghai Expo Cultural Park, Italia Pavilion.

Milan, Italy; Hong Kong, China; Shanghai, China.

2023 Award

Politecnico Spin-off

Capable awarded by Politecnico di Milano.

2023 Award

Forbes Under 30

Awarded by Forbes Italia

2023 Exhibitor

Milano Unica Industry Trade fair

Startup Italia and Colombo Industrie Tessili

Milan, Italy

2023 Exhibitor

AntiSurveillance Fashion Exhibition

Kornhausforum

Berna, Switzerland

2023 Exhibitor

Eye on the Street Show

Urban AI

Paris, France

2023 Exhibitor

State of Privacy 2023 Conference

Italian Privacy Guarantor

Rome, Italy

2022 Award

XXVII Compasso d'oro

Awarded by Associazione Design Industriale (ADI), category "Targa Giovani"

2022 Award

100 innovators that made a difference in 2022

Awarded by Startup Italia.

2022 Award

Switch2Product Winner

Capable awarded by PoliHub.

2022 Curator, Exhibitor and Speaker

Privacy e Città Event

Circolo del Design

Turin, Italy

2022 Exhibitor

Psycoknit Exhibition

Knit Design Polimi and Froy Collaboration at Milan Design Week

Fabbrica del Vapore

Milan, Italy

2022 Exhibitor

Milan Salone del Mobile 2022 (Salone Satellite) Exhibition

“Cap_able, Adversarial Knitted Fashion”

with Politecnico di Milano talents.

Milan, Italy

2022 Exhibitor

Pitti Filati Industry Trade fair

with Shima Seiki Italia

Florence, Italy

2022 Exhibitor

Tech Textil Industry Trade fair

with Shima Seiki Italia

Frankfurt, Italy

2022 Exhibitor and Speaker

D-House Academy Event

with Shima Seiki Italia

Milan, Italy

2021 Award

Second Place at the Call for Impactability 2021

Awarded by 3Bee

2021 Exhibitor

Milan Salone del Mobile 2021 (Supersalone) Exhibition

“Cap_able, Adversarial Knitted Fashion”

with Politecnico di Milano talents.

Milan, Italy

**Experience in
academic
teaching**

- title of courses given last 5 years, name of University/Institute, subject area, academic level (under-/ post-graduate / PhD), results of evaluations
- Summary of significant personal achievements in teaching
- Postgraduate supervision (PhD level): number of students supervised in the last five years with subject areas

Jan 2025 - Present

Thesis Tutor

Master's Thesis in Design for the Fashion System, Politecnico di Milano. Supervising a research thesis on the optimization of industrial knitting workflows through generative knitwear techniques applied to 7-color AI Camouflage Jacquard textiles. The project, developed in collaboration with Cap_able, focuses on the creation of a modular archive of adversarial textile patterns using SHIMA SEIKI SSR 112.

Post-graduate

Politecnico di Milano.

May 2025

Workshop

Co-designed and led sessions *on the intersection of Digital & Physical, From Intangible to Tangible*, in collaboration with Future Sketches (MIT Media Lab) for IDEO.

IDEO - San Francisco, CA, USA & Cambridge, MA, USA

Oct 2024 - Jan 2025

Supervisor

Curricular Internship in Communication Design

Master's degree in Design for the Fashion System.

Post-graduate

Politecnico di Milano.

Oct 2024 - Jan 2025

Supervisor

Curricular Internship in Communication Design

Bachelor's degree in Communication Design.

Under-graduate

Politecnico di Milano.

March 2025

Guest Lecturer

Exploring non-linear paths of professionalization in design.

Under-graduate

ADI – Associazione per il Disegno Industriale, Milan, Italy.

Istituto Europeo di Design (IED), Milan, Italy.

Sept 2024 - Feb 2025

Teaching Assistant

Final Synthesis Laboratory in Knitwear

Bachelor's degree in Fashion Design.

Under-graduate

Politecnico di Milano.

Sept 2024 - Dec 2025

Tutoring

Knitwear Seminar in English.

BFA Bachelor of Fine Art.

Under-graduate

FIT, Fashion Institute of Technology.

Nov 2024

Guest Lecturer

Impact and Sustainability Measurement Master's Degree.

Post-graduate

Bocconi University.

Nov 2023

Guest Lecturer

Digital Technologies & Sustainable Development Master's degree

Interactive Design.

Post-graduate

Politecnico di Milano.

Nov 2024

Guest Lecturer

Computerized Knitwear Modeling Laboratory

Bachelor's degree in Fashion Design.

Under-graduate

Politecnico di Milano.

Oct 2024

Mentor

Hackathon MIT Design X – Polimi

Under-graduate & Post-graduate

Politecnico di Milano.

MIT, Massachusetts Institute of Technology

Oct 2024

Guest Lecturer

Design Studio: Objects and Interaction, Architecture

Under-graduate & Post-graduate

MIT, Massachusetts Institute of Technology

Oct 2024 - Jan 2025

Supervisor

Curricular Internship in Communication Design

Master's degree in Design for the Fashion System.

Post-graduate

Politecnico di Milano.

Feb 2024 - Oct 2024

Supervisor

Curricular Internship in Communication Design

Master's student in Product Service System.

Post-graduate

Politecnico di Milano.

Jun 2024 - Sept 2024

Supervisor

Curricular Internship in Communication Design

Bachelor of Arts in Product Design.

Under-graduate

Istituto Europeo di Design (IED) Milan, Italy, and Bachelor of Industrial Design at Université de Montréal, Montreal, Canada.

May 2024

Guest Lecturer
AI and scientific communication
Post-graduate
Università degli Studi di Pavia.

Jan 2024
Guest Lecturer - Workshop
Biology and Textile Workshop
IAP weeks.
Under-graduate, Post-graduate & PhD
MIT, Massachusetts Institute of Technology.

Nov 2023
Guest Lecturer
MetaLAB
Under-graduate, Post-graduate & PhD
Harvard University.

Nov 2023
Guest Lecturer - Workshop
Digital Technologies & Sustainable Development Master's degree
Interactive Design.
Post-graduate
Politecnico di Milano.

Sept 2022 - Feb 2023
Teaching Assistant
Final Synthesis Laboratory in Knitwear
Bachelor's degree in Fashion Design.
Under-graduate
Politecnico di Milano.

Sept 2022 - Feb 2023
Teaching Assistant
Computerized Knitwear Modeling Laboratory
Bachelor's degree in Fashion Design.
Under-graduate
Politecnico di Milano.

Sept 2022 - Feb 2023
Teaching Assistant
Digital Technologies & Sustainable Development Master's degree
Interactive Design.
Post-graduate
Politecnico di Milano.

Jan 2023
Guest Lecturer - Workshop
Workshop Fashion Identity, On Textiles and Innovative Solutions
for Fashion.
Master's degree Fashion Design.
Post-graduate
Domus Academy.

Sept 2022 - Dec 2022

Guest Lecturer

Product Sustainability Management Master.

Post-graduate

MFI, Milano Fashion Institute.

Feb 2022 - Dec 2022

Teaching Assistant - Tutoring

Knitwear Seminar in English.

BFA Bachelor of Fine Art.

Under-graduate

FIT, Fashion Institute of Technology.

Oct 2022

Guest Lecturer

Master in Business Data Analysis.

Post-graduate

Talent Garden, Milan.

April 2022

Guest Lecturer

Fashion Strategy.

Post-graduate

Istituto Marangoni, Milan.

April 2022 - Jul 2022

Advisor

Fashion Strategy.

Master's degree in Management Engineering.

Post-graduate

Politecnico di Torino.

Sept 2021 - Feb 2022

Teaching Assistant

Final Synthesis Laboratory in Knitwear

Bachelor's degree in Fashion Design.

Under-graduate

Politecnico di Milano.

Sept 2021 - Feb 2022

Teaching Assistant

Computerized Knitwear Modeling Laboratory

Bachelor's degree in Fashion Design.

Under-graduate

Politecnico di Milano.

Other academic responsibilities

- internal appointments to faculty and university boards
- external appointments at national and international level
- responsibilities for organizing conferences/seminars/exhibitions (place, duration, institute)

Academia Research Collaboration

Partnering with MIT DesignX and the Politecnico Design School to

foster entrepreneurial initiatives in the field of design to leverage design-driven innovation to create impactful business opportunities. Co-organized and co-led a transatlantic design hackathon involving students, faculty, and external partners.

2024

Logotel, Italy

Politecnico di Milano. MIT, Massachusetts Institute of Technology

Academia Research Collaboration

Collaboration with the Future Sketches Group at the MIT Media Lab and Knit Design Polimi, focusing on integrating knitwear with digital inputs for innovative research.

2024

Politecnico di Milano. MIT, Massachusetts Institute of Technology

Conference Paper Reviewer – DRS 2024

*Reviewed the paper "Research-through-Design and Chemistry: Reflections on a Multi-Disciplinary Workflow Process of UV Sensing Wearables for Sun Safety" for the **Design Research Society Conference (DRS2024)**, held in Boston, USA.*

International scientific committee appointment.

<https://doi.org/10.21606/drs.2024.327>

2024

Industry-Academia Research Collaboration

Part of the collaboration between the MIT Tangible Media Group and Shima Seiki HQ in Osaka, Japan, to design and implement robotic textile structures.

2022-2024

MIT, Massachusetts Institute of Technology

Co-chaired International Conference

Co-chaired at Apparel Ergonomics, Engineering and Performance at the 14th International Conference on Applied Human Factors and Ergonomics (AHFE) at Sheraton New York Times Square hotel, New York, NY, USA.

2022

Industry-Academia Research Collaboration

Collaboration with Knit Design Polimi, Politecnico di Milano, and Froy to create the project "Psychoknit," showcased at Milano Design Week 2022 at Fabbrica del Vapore.

Milan, Italy.

2022

Industry-Academia Research Collaboration

Collaboration to develop an adversarial textile, utilizing Apex software and advanced flat knitting machine technologies.

Shima Seiki Italy.

2021-2022

Politecnico di Milano

Membership of academic or professional bodies (including membership of Editorial Boards of scientific publications; membership of scientific committees for international conferences)

Memberships

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Research and scholarships

- Summary of current research and scholarship
- Summary of research and scholarship during the previous five years
- Summary of significant achievements in research and scholarship
- Research grants and contracts

Current Research Focus

My current research investigates how design can act as a critical interface between citizens and emerging surveillance technologies. I focus in particular on the development of AI-resistant textile interfaces and visual obfuscation strategies aimed at protecting biometric data. This work is at the intersection of Human-Computer Interaction (HCI), critical design, and adversarial AI. I am also co-developing Polytropon AI, a red-teaming platform for testing and hardening multimodal generative models through human-centered AI-proof CAPTCHA systems. The aim is to translate ethical and aesthetic requirements into robust, deployable interfaces for privacy protection.

*In parallel, I am supervising a Master's Thesis in Design for the Fashion System (Politecnico di Milano), in collaboration with Capable and leading Italian textile manufacturers. The research investigates the optimization of industrial knitting workflows through **generative knitwear techniques** applied to **7-color AI Camouflage Jacquard textiles**. Developed using the **SHIMA SEIKI SSR 112** platform, the project aims to build a modular archive of adversarial patterns for scalable production, combining design complexity with machine efficiency. The project is also supported by industrial partners and aims to extend adversarial design into commercial textile pipelines.*

Research Over the Past Five Years

*During my doctoral research (2020–2024), I explored the concept of “adversarial textiles” through the lens of design-led interface prototyping. My PhD thesis, *AI Textile for Data Privacy: The Role of the Textile Designer*, combines Research through Design (RtD), technical experiments on fabric behavior under neural networks, and the industrial reproducibility of adversarial patterns.*

*At the MIT Media Lab, I also engaged in advanced interface prototyping through the course *How to Make (Almost) Anything (HTMAA)*, where I developed interactive systems using soft robotics, sensing fabrics, and laser-induced materials. Notably, I collaborated with Wedyan Babatain on a series of prototypes exploring **Laser Induced Graphene (LIG)** on textile substrates, aimed at embedding electrical conductivity and pressure sensitivity directly into fabric through sustainable laser processing. Other HTMAA projects included multi-material inkjet print heads, reconfigurable electrot textiles, and a multi-yarn CNC winder.*

*Another key research direction **has explored interactive fluidic mechanisms**. Building on the potential of responsive materials, I **investigated** how technologies such as **Robo Fluid** (developed in collaboration with Politecnico di Bari, EPFL, and the MIT Media Lab) and **fluidic fiber actuators** could be embedded into wearables.*

This multifaceted exploration led to:

- *the foundation of the Cap_able spin-off (2021–),*
- *6 co-authored patents (Italian + PCT),*
- *7 peer-reviewed publications,*
- *and international presentations (IEEE RoboSoft 2025, AHFE 2022, D-Tex 2024, Design Principles & Practices 2021).*

My research was supported by fellowships including Roberto Rocca and MISTI–MIT.

Date granted	Award Holder(s)	Funding Body	Title	Amount received
7/11/2023	Rachele Didero	Fondazione Fratelli Agostino and Enrico Rocca	Roberto Rocca Fellowship	\$16,000 (The fellowship also covered tuition and bench fees at MIT. Health insurance was covered by the host department via MIT-MISTI.)
21/09/2021	Rachele Didero	Politecnico di Milano	PhD Fellowship	€48,600 (gross amount)
06/2020	Rachele Didero	Politecnico di Milano	Borse “Tesi all'estero”	€2,000

Publications

Publications over the last 15 years in chronological order within each category following the International Standard for bibliographic references with DOI whenever possible. With multiple authorship the main author’s name appears in *Italics*. In addition, in the left-hand margin please star (*) what you consider were especially significant publications. For accepted but not yet published works please indicate expected publication date. PUBLICATIONS WILL ONLY BE EVALUATED WHEN THEY CAN BE TRACED IN PUBLIC CATALOGUES.

- Books – Authored
- Books – Edited
- Chapters in books
- Conference papers
- Journal articles in refereed academic journals (with DOI whenever possible)
- Journal articles in professional journals
- Official reports (whole or part)
- Other publications
- Exhibitions

PhD Thesis

Didero, R.

AI Textile for Data Privacy: The Role of Design

Doctoral dissertation submitted and defended at Politecnico di Milano, PhD in Design (Cycle XXXVI), 2025.

Supervisors: Prof. Giovanni Maria Conti, Prof. Martina Motta.

Research conducted in collaboration with the MIT Media Lab –

Tangible Media Group.

Focus: adversarial textile innovation, critical design, and AI-proof pattern development.

The dissertation is included among the submitted publications as allowed by Art. 1 of the call.

Book Chapter

Didero, R., & Motta, M.

When technology becomes harmful. The contribution of designers at a crossroads between fashion, digital, and ethics.

In *Designing ethically in a complex world: Multiple challenges within design for public and social systems* (pp. 191–204).

FrancoAngeli. 2024.

Full Paper

Didero, R., Conti, G. M., & Motta, M.

A Connection Between Critical and Practice-Based Design Research in the Era of Surveillance.

D-tex. Textile, Identity and Innovation. 3rd International Textile Design Conference 2024.

Accepted on 04/03/2024.

Full Paper / Journal Article

Kilic Afsar, O., Loconte, A., Babatain, W., Nicita, S., Didero, R., Choi, D., Ishii, H., & Cacucciolo, V.

Coupling of Fiber Pumps and Antagonistic Fiber Muscles Using Bias Pressure for Textile Robotics.

IEEE International Conference on Robotics and Automation (ICRA)

Submission date: 15/09/2023.

(*Full Paper Rejected at ICRA 2023; currently under development as a Journal Article for submission.*)

Full Paper

Didero, R., & Conti, G. M.

CAPABLE: Engineering, textile, and fashion Collaboration, for citizens' Awareness and Privacy Protection.

In *Accelerating Open Access Science in Human Factors Engineering and Human-Centered Computing*.

24/07/2022.

Full Paper

Motta, M., Conti, G. M., Lo Socco, G., & Didero, R.

Craftsmanship and digitalization in the Italian knitwear industry: A paradigm shift for the narrative of Made in Italy.

In *International Conference Design! OPEN: Objects, Processes, Experiences and Narratives*. (pp. 705–713). Springer Nature Switzerland.

05/05/2022.

Full Paper

Didero, R., & Conti, G. M.

Adversarial knitted fashion: Method for making a knitted fabric that reproduces an adversarial image.

In *Proceedings of the Sixteenth International Conference on Design*

Principles & Practices.
Accepted on 16/03/2021.

**Publications
about the
applicant**

Articles published by others in magazines, etc. about the applicant or his/her projects

Rachele Didero and her work with Cap_able have been featured in over 80 national and international publications between 2021 and 2025, including *CNN*, *Forbes*, *WIRED*, *Domus*, *La Repubblica*, *Corriere della Sera*, *The New York Post*, *The Daily Mail*, and *The Sun*. Her research on AI-resistant textiles and design for data privacy has gained significant media attention for its technological originality and social impact. Capable has been recognized as one of the most innovative fashion-tech startups in Europe and has received the **Compasso d'Oro ADI – Targa Giovani**, while Didero was selected as a speaker at *TEDx* and the *IAPP European Data Protection Congress*.

Further data

Presentations at scientific conferences over past 3 years (invited or selected, keynote, nature and status of conference)

2025 – IEEE RoboSoft International Conference – Panel
Talk and live demo on adversarial textiles and ethics in AI-driven Soft Robotics.

International peer-reviewed conference, invited panelist.
École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland. — Invited panelist, peer-reviewed conference.

2025 – Panel & Workshop on AI and Digital Resistance
Presented research on camouflage and textile-based resistance to biometric surveillance, alongside Prof. Ben Zhao (University of Chicago) and Zach Blas.

Invited speaker, international academic event. — Speaker, invited public presentation.

Trinity College Dublin & National College of Art and Design (NCAD), Ireland.

2024 – Fashion for Future Conference
Speaker, Digital Transformation Session: **“AI and Design: Safeguarding Human Identity in a World of Machines”**

National applied research conference, invited presentation.

Polo Universitario Città di Prato (PIN), MITA & MICS, Scandicci, Italy. — Speaker, invited presentation.

2024 – 3rd International Textile Design Conference – D_tex:
Textile, Identity and Innovation

Speaker: **“A Connection Between Critical and Practice-Based Design Research in the Era of Surveillance”**

Peer-reviewed international conference, selected paper.
Lisbon, Portugal. — Speaker – peer-reviewed international conference, selected paper

2022 – 14th International Conference on Applied Human Factors and Ergonomics (AHFE)

Speaker: **“Capable: Engineering, textile, and fashion Collaboration for citizens’ Awareness and Privacy Protection”**
International scientific conference, peer-reviewed, accepted paper.
New York, NY, USA. — Speaker – peer-reviewed international conference, selected paper

2022 – Design Open Conference

Speaker: **“Craftsmanship and Digitalization in the Italian knitwear industry. A paradigm shift for the narrative of Made in Italy”**
National design conference, selected talk.
Parma, Italy. — Speaker – peer-reviewed international conference, selected paper

Entrepreneurship Spin-offs, patents and entrepreneurship

Spin-off:

Capable S.R.L.

Co-Founder (2021 – present)

Design-tech startup focused on the development of patented adversarial textiles designed to protect the identity of people and objects from AI-based facial recognition systems.

Capable operates at the intersection of ethics, technology, and design.

Over the years, Capable has led and co-developed **collaborative R&D projects, workshops and collaborations** with:

- **Textile industry leaders** such as:
Colombo Industrie Tessili S.r.l., Maglificio Pozzebon S.r.l., Filmar S.p.A., Shima Seiki Italia S.p.A.
- **Global companies** including:
BMW DesignWorks, Leonardo, TikTok, IDEO
- **Non-profit organizations** and institutions such as:
IAPP – International Association of Privacy Professionals
European Union Agency for Fundamental Rights (FRA)
Garante per la Protezione dei Dati Personali (Italian Data Protection Authority)
- **Cultural institutions and museums** such as:
ADI Design Museum, M+ Museum Hong Kong, MIT Museum
- **Academic and research institutions**, including:
Politecnico di Milano, Politecnico di Torino, Massachusetts Institute of Technology (MIT)

Capable combines ethical design research with industrial scalability to create high-impact, AI-resistant solutions at the crossroads of design, privacy, and emerging technology.

Patents:

Italian Patent

Didero, R., Conti, G. M.

Metodo per realizzare un tessuto in maglia che riproduce un'immagine avversaria.

Ministero dello Sviluppo Economico – Ufficio Italiano Brevetti e Marchi.

Patent No. 102021000002729.

Submission date: 08/02/2021.

PCT Patent

Didero, R., Conti, G. M.

Method For Manufacturing A Knitted Fabric Reproducing An Adversarial Image.

International Publication Number PCT/IB2022/051036.

Submission date: 07/02/2022.

Italian Patent

Didero, R., Ferrari, M.

Metodo Per Realizzare Un Articolo Tessile Avversario Con Un Tessuto A Navetta Jacquard.

Ministero dello Sviluppo Economico – Ufficio Italiano Brevetti e Marchi.

Patent No. 102023000014442.

Submission date: 07/11/2023.

PCT Patent

Didero, R., Cancedda, C., Ferrari, M.

Method for Manufacturing an Adversarial Textile Item with a Jacquard Shuttle-Woven Fabric.

International Bureau of WIPO. PCT/IB2024/056712.

Submission date: 10/07/2024.

Italian Patent

Didero, R., Giulivi, L., Conti, G. M., Boracchi, G., Deretti, A.

Metodo per realizzare un articolo avversario.

Ministero dello Sviluppo Economico – Ufficio Italiano Brevetti e Marchi.

Patent No. 102024000013072.

Submission date: 06/06/2024.

Other Research Outputs (software, algorithms, datasets)

- CAPTCHA Demo – AI-resistant digital interface to test adversarial camouflage effectiveness. Developed in collaboration with Luca Chironna, available at: https://captcha_demo.lukakiro.dev/
- Adversarial Textile Pattern Archive – Dataset of over 200 synthetic patterns tested against YOLOv5 and FaceNet. In development for open repository submission.

Language competence

Written and spoken competence in all languages according to CERF levels, Common European Reference Framework (http://www.coe.int/t/dg4/linguistic/cadre1_en.asp); append certificates wherever available

Language	Understanding	Speaking	Writing	Certification / Note
Italian (mother tongue)	C2	C2	C2	Native speaker
English	C2	C2	C1/C2	TOEIC: 885/990 (July 2018) – Work experience
Spanish	C2	C2	B2	Studied abroad – self-assessed, fluent communication – Work experience
French	B2	B2	B1	Studied abroad – self-assessed, fluent communication