PhD in DESIGN - 41st cycle

THEMATIC Research Field: AI FOR CRAFTS SECTOR IN DIGITAL TRANSITION

Monthly net income of PhDscholarship (max 36 months)
€ 1300.0
In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity	
Motivation and objectives of the research in this field	In the coming years, the Italian manufacturing sector is facing a profound transformation due to green and digital transition. In this challenging context, the research focuses on the artisanal enterprise, considering opportunities and risks associated with the adoption of advanced technologies such as Artificial Intelligence. The main objective of the research is to explore possible ways to integrate generative AI into artisanal practices within Small and Medium Enterprises (SMEs) with a forward-looking systemic perspective. This asks for underlining possible threats to artisanal skills and production as the effects of this integration, expanding the creative horizon, customisation experience and grasping potentialities in order to preserve, support and revitalise craft. The research will define strategies method and approach to support SMEs innovations and improvements, ensuring a balance between innovation and material cultures.
Methods and techniques that will be developed and used to carry out the research	The research will adopt a mixed methodology, starting from a litterature study, to examining the state of the craft sector in contexts where it has a strong impact in socio-cultural life as well as its production. Case studies method will serve as a useful benchmark, offering insights from other international contexts engaged in the development and protection of artisanal practices. The methodology will include qualitative and quantitative analysis, leveraging both primary and secondary data sources. Field research will involve interviews and

	sources. Field research will involve interviews and surveys with artisans, industry experts, and policymakers to assess their perspectives on AI integration. Additionally, experimental applications of AI-driven tools in selected artisanal workshops will provide practical insights into their feasibility and impact. Furthermore, data analytics techniques will be employed to evaluate the economic and cultural effects of AI adoption, ensuring that findings contribute to a comprehensive understanding of best practices for integrating new technologies while respecting cultural traditions.
Educational objectives	The research aims to provide a structured framework for understanding the role of AI in traditional craftsmanship, contributing to the broader academic discourse on digital transformation in cultural industries. Educational objectives include: •Developing a multidisciplinary perspective that bridges technology, heritage conservation, and business innovation. •Enhancing skills in data analysis, qualitative research methodologies, and comparative case studies. •Promoting awareness among artisans, students, and policymakers about the potential and challenges of AI in artisanal industries. •Creating educational materials and workshops to facilitate knowledge transfer on best practices for AI integration in traditional craftsmanship. By fostering these competencies, the research will enhance the intersection of heritage preservation and technological innovation.
Job opportunities	The findings of this research will contribute to the growing demand for professionals who can bridge the gap between traditional craftsmanship and digital transformation.

Potential career paths include:

•Assisting small businesses in integrating AI tools while maintaining their authenticity.
•Working in institutions focused on preserving traditional crafts through technological advancements.
•Contributing to government or NGO initiatives aimed at supporting artisanal industries in the digital age.
•Expanding knowledge on AI applications in cultural industries and contributing to scholarly discourse.
•Developing startups or business models that blend artisanal practices with AI-driven efficiencies.

This research will thus provide valuable insights for both industry professionals and academics, fostering innovation while ensuring the preservation of Italy's rich artisanal heritage.

Composition of the research group	1 Full Professors 2 Associated Professors 0 Assistant Professors 0 PhD Students
Name of the research directors	Marinella Ferrara

Contacts
marinella.ferrara@polimi.it 02.23995996 https://dipartimentodesign.polimi.it/it/personale/marinella.ferrara

Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents	--

Scholarship Increase for a period abroad	
Amount monthly	650.0 €
By number of months	6

Stage and period abroad

Institution or company where the candidate will spend the period abroad (name and brief description)	
By number of months abroad	0

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
Educational activities (purchase of study books and material, funding for participation in courses, summer schools, workshops and conferences) financial aid per PhD student per year: 5.300,25 euros per student (total for 3 years) Teaching assistantship: availability of funding in recognition of supporting teaching activities by the PhD student There are various forms of financial aid both for research and teaching activities. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations. Computer availability: 1st year, 2nd year and 3rd year: Each research group may supply phd student with a laptop/desktop PC, if necessary. Desk availability: 1st year, 2nd year and 3rd year: Each research group may supply phd student with a desk.