



Supervisor Expression of Interest

MSCA - Marie Sklodowska Curie Action - (PF)

Postdoctoral Fellowship 2025

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Link "Pagina docente":

https://onlineservices.polimi.it/manifesti/manifesti/controller/ricerche/RicercaPerDocentiPublic.do?evn_prodotti=EVENTO&k_doc=6403&aa=2023&lang=IT

Department Name: Department of Management, Economics and Industrial Engineering

Research topic: Innovative Entrepreneurship and Artificial Intelligence

MSCA-PF Research Area Panels:

- ECO_Economic Sciences
- ENG_Information Science and Engineering
- ENV_Environmental and Geosciences
- LIF_Life Sciences
- MAT_Mathematics
- PHY_Physics
- SOC_Social Sciences and Humanities
- CHE_Chemistry

Brief description of the Department and Research Group (including URL if applicable):

The Department of Management, Economics, and Industrial Engineering (DIG) of Politecnico di Milano was established in 1990. Its mission is to contribute to the common good and individual well-being through a critical understanding of the opportunities and challenges posed by technology to business and society. The Department pursues its mission with an international reach by creating and sharing knowledge through high-quality education, the quest for scientific excellence, and active community engagement.

We aim at:

- Educating responsible individuals who will shape the future of relevant corporations and institutions to serve society.
- Promoting original, rigorous, and relevant research at the intersection of engineering, management, and economics, focusing on a deep understanding of technology and its ecosystem.
- Contributing to a sustainable and inclusive society by inspiring virtuous business practices and transformational policy measures.

With approximately 160 professors, DIG is one of the largest departments of Politecnico di Milano.

More information can be found at: <https://www.dig.polimi.it/it>

DIG HumanTech project has been selected and funded by the Ministry of University and Research (MUR) for the period 2023-2027 within “Dipartimenti di Eccellenza” (Law 232/2016), the ministerial initiative aimed at rewarding the departments that stand out for the quality of their research and at financing specific development projects. In particular, the objective of HumanTech is to redefine the relationship between technology and human beings to enable a sustainable digital transition of industrial systems. The project aims to propose new models and processes for the development and adoption of technologies, capable of accelerating the transition towards sustainable, inclusive industrial systems that make individual and collective well-being a priority. The project below presented is

The supervisor, **Luca Grilli**, is a Full Professor in Business and Industrial Economics at DIG. Luca Grilli’s research primarily focuses on the economics of innovative entrepreneurship, the economics of network industries, and their intersection. On these topics, he collaborates with numerous colleagues both nationally and internationally. Accordingly, he has participated in numerous scientific projects funded by private institutions, Italian public regulatory agencies, research institutions, and the European Commission. His scholarly work has been published in various international scientific journals.

Notably, he is currently writing a scientific monograph for Cambridge University Press (expected in 2026) on the topic of AI and innovative entrepreneurship.

TITLE of the project: Entrepreneurship in the Age of Artificial Intelligence

Brief project description:

This project aims to analyse the entrepreneurial phenomenon—particularly innovative entrepreneurship—under the transformative influence of artificial intelligence (AI), in order to derive broader considerations on the evolution of modern advanced capitalist economies. Rooted in the economics and management

literature, the project investigates how AI is reshaping the entrepreneurial process across its stages—opportunity identification or creation, implementation and exploitation, and performance—and what this means for entrepreneurial agency, firm dynamics, and institutional frameworks.

In management studies, entrepreneurship has long been framed as a human-centred process involving creativity, resource assembly, and strategic action under uncertainty (Shane & Venkataraman, 2000). However, AI—understood here as a general-purpose technology capable of learning, adapting, and performing cognitive tasks (Cockburn et al., 2019)—challenges this paradigm. The project will explore whether and how AI systems can contribute to the **generation or recognition of entrepreneurial opportunities**. Deep learning tools, whether part of predictive or generative AI, detect patterns in data that humans often overlook or create entirely new ones, thereby redefining the process of ideation.

To what extent does this transformation erode or enhance the distinctively human role in entrepreneurial discovery? At the implementation stage, AI has the potential to function not only as a support tool but as an **entrepreneurial actor**—for instance, through autonomous agents capable of coordinating complex business functions. This invites inquiry into the boundaries between automation and agency. How do we rethink firm formation and strategy when digital agents can generate, test, and scale new business models with minimal human input? These changes call for a reassessment of the role of **human and social capital** in entrepreneurship. Classic theories emphasize their centrality in accessing information, forming teams, and mobilizing resources (Davidsson & Honig, 2003; Colombo & Grilli, 2005). Yet in an AI-driven environment, new questions arise: Are traditional forms of capital being displaced or recombined with digital capabilities? What kinds of founder attributes remain critical in ventures deeply reliant on AI? The project also focuses on the interface between **AI and entrepreneurial finance**. Algorithms increasingly inform investment decisions in venture capital and alternative finance (see Kudelić et al., 2025 for an initial review). How is AI reshaping the criteria used to evaluate entrepreneurial potential? Does it level the playing field or reproduce structural biases under the guise of objectivity?

In the macro perspective, the research engages with Schumpeterian theories of innovation and creative destruction (Schumpeter, 1942), asking whether AI **amplifies or substitutes** the entrepreneurial function. Are we witnessing a phase of “automated creative destruction,” or the weakening of entrepreneurship as a distinctive force of economic renewal (also for the effect of the Big Techs predominance)? Accordingly, should it be regulated not only for ethical and labour concerns, but also for its systemic effects on the entrepreneurial ecosystem and innovation dynamics? What **role should public policy** play in supporting inclusive, AI-augmented entrepreneurship that maximizes welfare and minimizes concentration and inequality?

By articulating and analyzing (some of) these questions, the project aims to develop a novel conceptual and empirical framework for understanding entrepreneurship in the AI era. It may deliberately focus on one or a subset of the research questions outlined above, in order to explore the chosen domain more deeply. In any case, the project seeks to contribute to academic debates in economics and management, while also providing actionable insights for policymakers concerned with innovation, competition, and welfare in the 21st century.

The project is coherent with the DIG HumanTech Project, Research Line no 1 - Human-centred digital technology development models and processes.



Key References

- Cockburn, I. M., Henderson, R., & Stern, S. (2019). The Impact of Artificial Intelligence on Innovation. In Agrawal A., Gans, J. & Goldfarb A. (Eds.), *The Economics of Artificial Intelligence: an Agenda*. University of Chicago Press, Chicago, pp. 115-146.
- Colombo, M. G., & Grilli, L. (2005). Founders' human capital and the growth of new technology-based firms: A competence-based view. *Research Policy*, 34(6), 795-816.
- Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301-331.
- Kudelić, R., Šmaguc, T. & Robinson, S (2025). Artificial intelligence in the service of entrepreneurial finance: knowledge structure and the foundational algorithmic paradigm. *Financial Innovation*, 11, article no. 72.
- Schumpeter, J. A. (1942). *Capitalism, Socialism and Democracy*. Harper & Brothers.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217-226.