

Irene Spada, Ph.D.

Irene Spada, born in Lamezia Terme (CZ) on 21/04/1992, has a PhD in the SSD ING-IND/35 at the School of Engineering. She is member of the Research Group B4DS Business Engineering for Data Science (<http://b4ds.unipi.it>).

In June 2020 she obtained a Master's Degree in Management Engineering at the University of Pisa, with a thesis titled "*Text driven technological mapping of C4ISTAR: defining a fuzzy defence related domain*", realized during an internship for research activities at the Bordeaux School of Economics (BSE) of the University of Bordeaux. In November of the same year, she was awarded a scholarship for a Ph.D. in Smart Industry, a collaborative programme among the Universities of Pisa, Florence, and Siena. In December 2023, she obtained the title of Doctor of Research in Smart Industry, with an excellent grade, defending the thesis "*Innovating Curriculum Design in Higher Education with Text Mining*".

Her research focuses on the use of engineering design methods and text mining techniques to study the impact of digitalization and technological transformation in education and training. She participated in several International Conferences and co-authored articles published in *Technological Forecasting and Social Change* and in *Studies in Higher Education* ([Irene Spada - Scopus Author Profile](#)).

She has carried out various educational activities such as seminars on text mining, graph theories, and project management, debates, and tutoring activities.

She has been involved in many research projects about skills foresight at international level. Since 2020 she is participating in the European project "*ASSETS+ – Alliance for Strategic Skills addressing Emerging Technologies in Defence*", the Sector Skills Alliance for Defence Sector funded by Erasmus+ Europe Programme, for the analysis of skills for emerging technologies and for the design of educational activities. In 2022 she was involved in European project "*ENCORE – ENriching Circular Use of OeR for Education*", founded by Erasmus+ Europe Programme, for the analysis of skills related to green, digital and entrepreneurial fields. In 2023 she was involved in the project "*MARTE – A technological approach to micro-credentials*", dedicated to the definition of guidelines for the design of micro-credentials. Next, she is member of the working group of the University of Pisa for the development of an Observatory of Skills and Occupations (Agreement CIMEA-DESTeC).

At regional level, in 2020 she conducted research activities within the project "*Integrazione continua di sorgenti eterogenee per massimizzare il valore e l'impiego di Toscana Open Research*" (*Continuous integration of heterogeneous sources to maximize the value and use of Toscana Open Research*), aimed at investigating the alignment between university education and the skills required by the world of work, with particular focus on the Tuscany Region. Next, within the project "*MODA – accresciMento delle cOmpetenze innovative per la moDA*" (*Skills development in Fashion industry*), she performed training activities on Industry 4.0 for Tuscany Fashion industry. In 2021 she collaborated with Camera di Commercio della Maremma e del Tirreno for supporting innovation in SMEs.

In 2022, she was responsible for the research project "*PM Skills Map – Mapping Project Management Skills for Education Design*" for the application of text mining (Natural Language Processing and Generation techniques) for the design of training courses, realized within Beam Me Up, a spin-off of the University of Pisa dedicated to design for education.

In 2023, she performed a research stay abroad in Department of Computer Science and Engineering at the Universidad Carlos III de Madrid in collaboration with the COSEC Lab (Computer Security Lab). The project, titled "*Detecting the relations between social/cultural behaviour (using Hofstede's Model and similar), cyber-attacks and hacker groups*", aimed at studying the implications and the effects of cultural factors on cybersecurity commitment and capacity building, exploiting Statistics and Text Mining techniques.