Data Science and Artificial Intelligence

Introducing the Focus Area

Leadership in an evolving technological landscape

Data has changed the way we live our lives, earn our livelihoods, communicate, and make decisions. Data science and artificial intelligence (AI) will have a pervasive impact on society in all its dimensions. Not only technologically but also in its legal, ethical, and democratic aspects.

The progress in technology in these fields, driven by data science and recent advances in AI (e.g. evidence- and population-based diagnostic tools in medicine), will have to be encapsulated in new legal practices (e.g. medical responsibility and liability), will create new ethical challenges (induced by technological progress) and will require new mechanisms for governance and democracy (e.g. to avoid decision making bias induced by scientific and technological illiteracy)

Una Europa seeks to ensure that all Europeans are part of the digital transformation, that adequate resources are devoted to AI and that the European Union's fundamental values and fundamental rights are at the forefront of the AI landscape. The Data Science and AI Focus Area crosscuts the alliance's activities in research, teaching and outreach to society, as well as informing work undertaken in other Focus Areas.

Focus Areas: Inspiration, not limitation

Una Europa's six Focus Areas – Cultural Heritage, Data Science and Artificial Intelligence, Europe and the World, Future Materials, One Health, and Sustainability and Climate Protection – reflect pressing global and societal challenges. Inherently interdisciplinary, they are designed to bring together experts in a wide range of fields to find new ways of collaboratively conducting the research of the future and forging new paths in education and societal outreach.

The Focus Areas are intended to inspire researchers, not limit them. No discipline is excluded from applying to secure Una Europa Seed Funding. We encourage novel and diverse perspectives on challenges broadly attached to the Focus Areas, proposing collaborative projects in research, education and societal outreach, from whichever fields these emerge.

Jussi Kangasharju
Chair,
Data Science and AI Self-Steering Committee
Email: jussi.kangasharju@helsinki.fi

Case studies

Sample Seed Funding-supported projects in Data Science and Artificial Intelligence

una europa

As with the Focus Areas themselves, these case studies are intended to provide inspiration only and are in no way indicative of research topics that are more likely to succeed in securing Una Europa Seed Funding in the future.

Project:	FACE - Future Crime: Future Aspects of Crime and Enforcement
Description:	FACE seeks to create a multi-level dialogue to facilitate collaboration through discussion and analysis of emerging technologies and the impact they have on the structure of crime and investigation. The project will focus on the technological advancements of Web3.0 — Artificial Intelligence, Blockchain and Metaverse — and related new features of the internet to examine how criminal patterns and investigative strategies may evolve. Given the paradigm-shifting nature of these technologies, scholars and policymakers need to adopt a forward-thinking approach to identify risks and vulnerabilities, overcoming piecemeal approaches. Through a holistic analysis of the impact of the identified technologies on the criminal justice system, the project will establish a network to foster discussion on the balance between liberties and crime control.
Duration:	January–July 2023
Funding:	€34,065
Key contact	Carsten Momsen, Freie Universität Berlin carsten.momsen@fu-berlin.de

---

Project:	Management of big data in Cultural Heritage: A dynamic shared solution (CHANCES)
Description:	The project aims to create a new integrated European research team for the sustainable management of big data in Cultural Heritage. The goal is the development of innovative tools for the management and sharing of data and dissemination of results obtained from diagnostic campaigns, and the identification of joint research topics to be developed in the framework of future Initial Training Network (ITN) or European Research Council (ERC) funding calls within the theme of “BIG DATA AND CULTURAL HERITAGE”. The production and management of big data in the field of cultural heritage is an issue still to be addressed, with potentially high impact on diagnostic research, restoration planning and education.
Duration:	May 2021–March 2022
Funding:	€11,000
Key contact	Rocco Mazzeo, Alma Mater Studiorum - Università di Bologna rocco.mazzeo@unibo.it

---

Project:	Mathematics of random complex systems: Theory, computation and applications (Una-Random)
Description:	This project creates an inter-athenaeum consortium bringing together a team of scholars, combining their strengths under the thematic umbrella of “meanfield and interacting particle systems” to shed light on certain complex dynamic systems and to develop new analytical and numerical models and tools to better understand specific problems in neuroscience, finance and economics, machine learning, electric batteries, and smart cities. In the future, the consortium will implement on a regular basis: the organization of joint cycles of seminars, annual meetings and thematic semesters; the creation of mobility opportunities for faculty members, young researchers and PhD students; the development of joint integrated curricula at PhD’s and master’s level.
Duration:	January–December 2022
Funding:	€14,965
Key contact	Stefano Pagliarani, Alma Mater Studiorum - Università di Bologna stefano.pagliarani9@unibo.it

View more Seed-Funded projects