ELLIS Doctoral Symposium #EDS2024

AI & Sustainability

26-30 August, 2024
Paris, France

eds Paris

Funded by the European Union

ELIAS

elsa European Lighthouse on Secure and Safe AI

elise

ellis

www.elias-ai.eu
eds2024.github.io

IP Paris

Leading engineering schools in France:

- École Polytechnique
- ENSTA Paris
- ENSAE Paris
- École nationale des ponts et chaussées
- Télécom Paris
- Télécom SudParis

Interdisciplinary institutes:

- Hi!Paris: Artificial Intelligence and Data Science
- Energy4Climate: Energy, sustainability and climate change
- CIEDS: Defense and security
- E4H : Engineering for Health

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École polytechnique/X

ÉCOLE POLYTECHNIQUE

Three pillars

- Education
- Research
- Innovation

AI Research

- Applied Maths and Computer Science dept.
- CV, deep learning, graphs, …
- Generative models, robust AI, …

Commitment to sustainability

- Specialized programs
- Energy4Climate Center
- International challenges

Facts

Undergraduate and graduate education

40% international students

Created in 1794

23 laboratories
520 faculty members

Notable professors
Lagrange, Cauchy, Monge, Ampère, Fourier

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Télécom Paris

Built upon 5 unifying axes

- Data Science and AI
- Digital trust
- Very large networks and systems
- Design, Interaction, Perception
- Mathematical modelling

Research at Télécom Paris is supported by

160	Permanent teaching and research, and full research staff
238	PhD Students
70	Postdocs and research engineers
19	Chairs and joint laboratories

- Chaire AI4I

Airbus, Idemia, Renault, Valeo

- Operational AI Ethics

Interdisciplinary research group

- Omega-X

Energy data space to boost the European data economy

Data Science and AI — ~45 permanent members and ~100 PhD and postdocs

S2A — Signal, Statistics and Learning

Foundations of Machine Learning, **Frugality**, **Trustworthy AI**, Statistics, signal processing and audio analysis, NLP

IMAGES — Image, Modeling, Analysis, GEometry, Synthesis

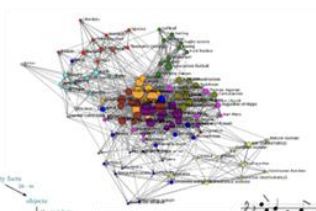
Learning, Pattern Recognition, 3D Interaction, Symbolic AI, Statistical image modeling

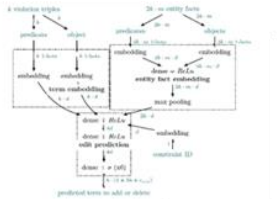
MM — MultiMedia

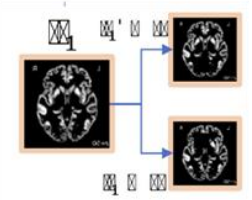
Multi-view image and video compression, rich-media scene representation, interactivity

DIG — Data, Intelligence and Graphs

Data mining, graph algorithms, information retrieval, knowledge representation and reasoning







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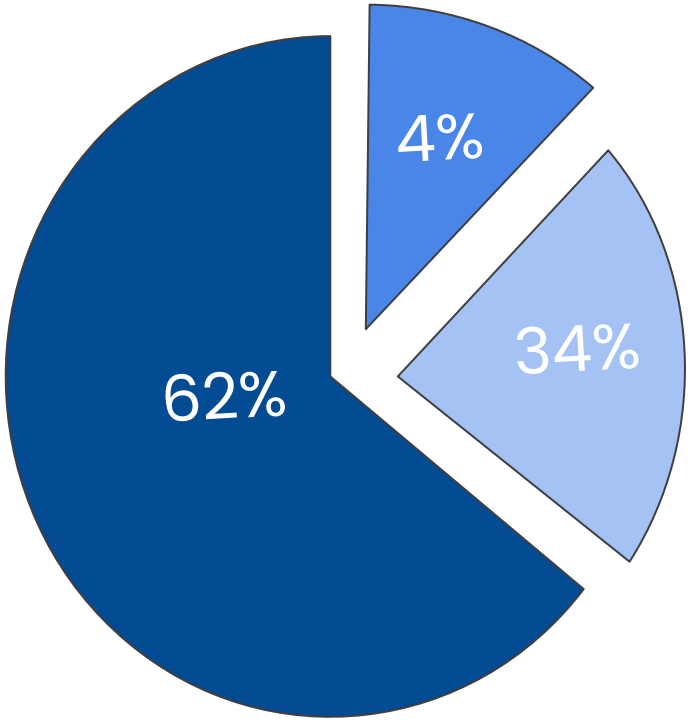
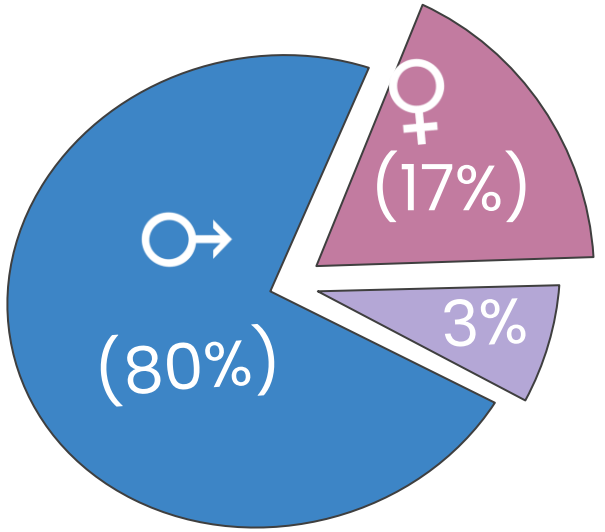
Some Stats about our participants...



- Junior PhD students (<1.5 years)
- Senior PhD students (>1.5 years)
- Postdocs & Others



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Hi! PARIS
HEC PARIS
INSTITUT POLYTECHNIQUE DE PARIS
PARIS ARTIFICIAL INTELLIGENCE FOR SOCIETY

G RESEARCH

INSTITUT POLYTECHNIQUE DE PARIS
E4C
ENERGY4CLIMATE
INTERDISCIPLINARY CENTER

Bronze Sponsors

BAALBEK management

justAI

slb

NOVARTIS

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Keynote speakers

Rita Cucchiara

Università degli Studi di Modena e Reggio Emilia, head of ELLIS Unit Modena

Learning, Unlearning, and Relearning

Devis Tuia

EPFL

Machine learning for Earth: monitoring the pulse of our Planet with sensor data, from your phone all the way to space

Gaël Varoquaux

INRIA Saclay

AI from tabular data to healthcare and society

David Rolnick

McGill University and Mila – Quebec AI Institute

Tackling climate change with machine learning: An opportunity for application-driven innovation

Caroline Therwath-Chavier

The Allyance

AI²: why Artificial Intelligence should be All Inclusive.

Industrial day (Tuesday)

Panel – Sustainable AI and AI for a sustainable world

Aurélie Boisbunon (Ericsson), Patrick Perez (Kyutai), Piotr Sankowski (IDEAS, NCBR), Vincent Feuillard (Renault) and Bruno Carron (Airbus)

Industry fair

AIForensics, JustAI, Novartis, Renault, Balbeek, G-Research, SLB, Hi!Paris

Innovation and entrepreneurship session

How to validate your startup idea ? – Arnaud de Moissac (DC Brain)
Thermodynamic challenges of HPC and AI – Rémi Bouzel (Qarnot Computing)

Social events

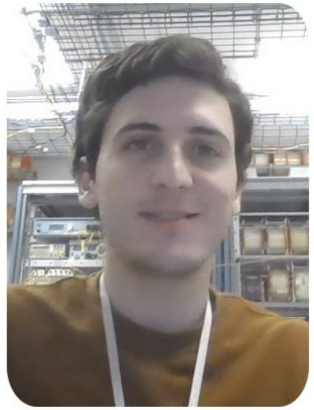
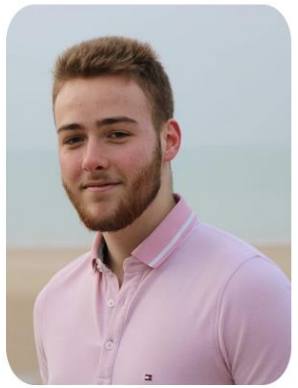
Welcome Cocktail: Today, from 3 to 5pm in the venue's courtyard

Gala Dinner: 27th, 7pm - Salons de l'Hôtel des Arts et Métiers (9 bis, Avenue d'Iéna, 75016 Paris)

Treasure Hunt: 29th, 16pm - Quartier Latin (11 Pl. Marcelin Berthelot)

(Everyone has been grouped in teams - see schedule for the list)

Supporting team (= who to ask questions to)

Just look for the black lanyards

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Supporting team

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Media covering team

ellis unit | PARIS

https://sites.google.com/view/ellis-paris/

Founding members

cnrs

Inria

SORBONNE UNIVERSITÉ

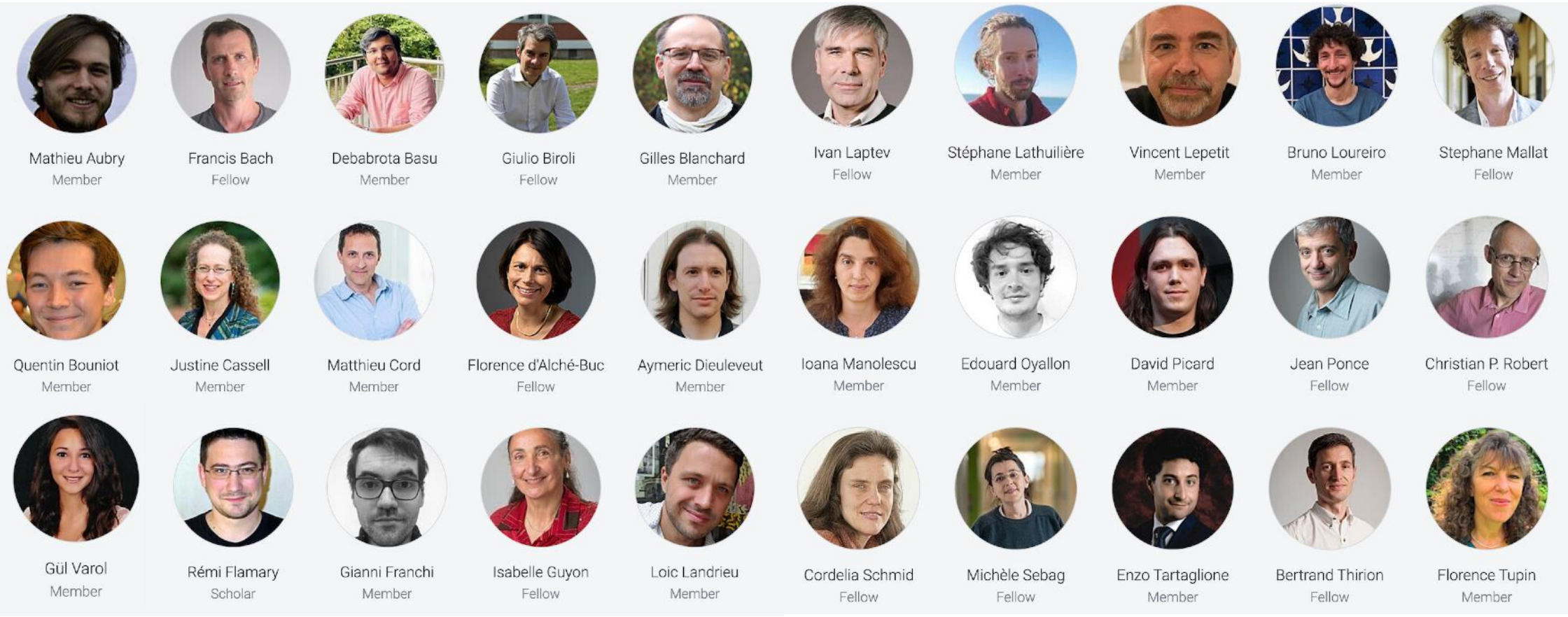
PSL UNIVERSITÉ PARIS

université PARIS-SACLAY

INSTITUT POLYTECHNIQUE DE PARIS

4 institutes

ELLIS Paris Members



Unit Director

Gabriel Peyré

Coordination

Sotiria Chatzi

Mailing list: https://sites.google.com/view/ellis-paris/

Spinoff examples

Califrais

Decarbonizing the food supply chain

Califrais, Rungis' logistics & digital official operator

Online demo:
https://rungismarket.com/

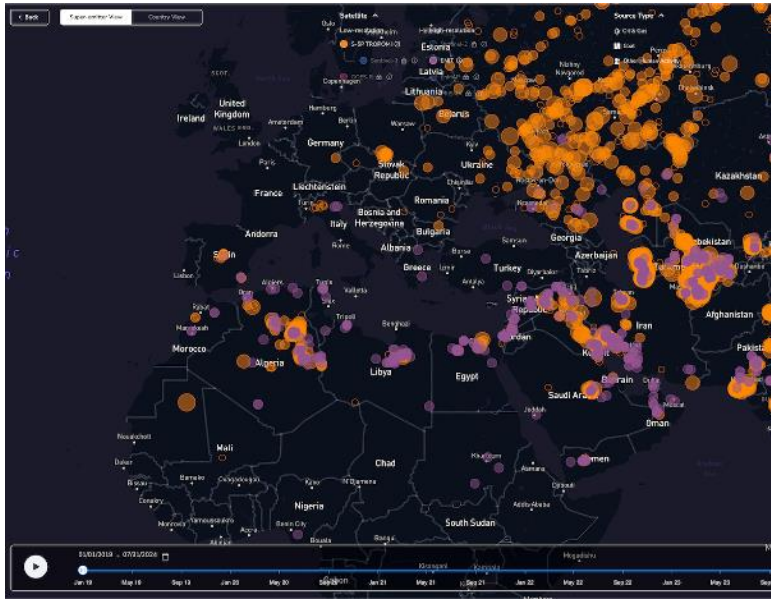
alphabrain

AI-augmented brain monitoring for general anesthesia

https://alphabrain.fr

KAYRROS

Monitoring methane emissions



Online demo:
https://methanewatch.kayrros.com

Events, Colloquia and Courses

eds Paris

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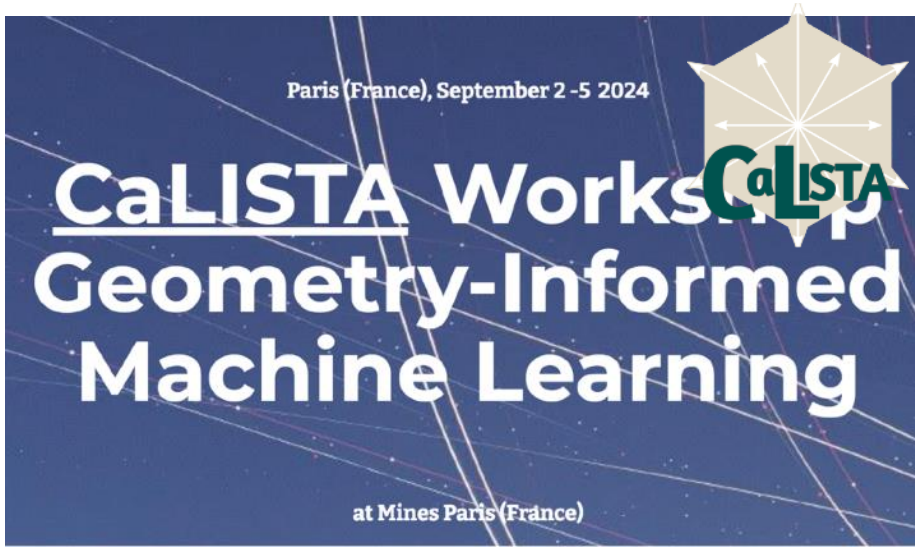
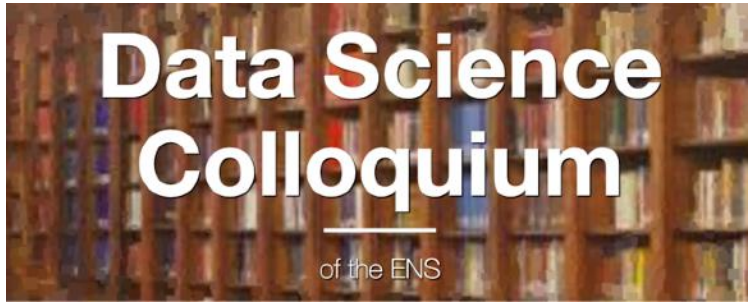


PSL Preparatory Week Machine Learning

Home > Événements > PSL Preparatory Week Machine Learning

Share :

This week of introduction to machine learning is open to all Master's and PhD students from PSL. Subject to availabilities, students from other universities may also attend.



PR[AI]RIE

PaRis Artificial Intelligence Research InstitutE

Colloquiu

AI 4 C

AI for Climate

European Lighthouse of AI for Sustainability

Funded by the European Union

This project has received funding from the European Union's Horizon Europe Research and Innovation Programme under grant agreement No. 101120237.

Countries

17

Partners

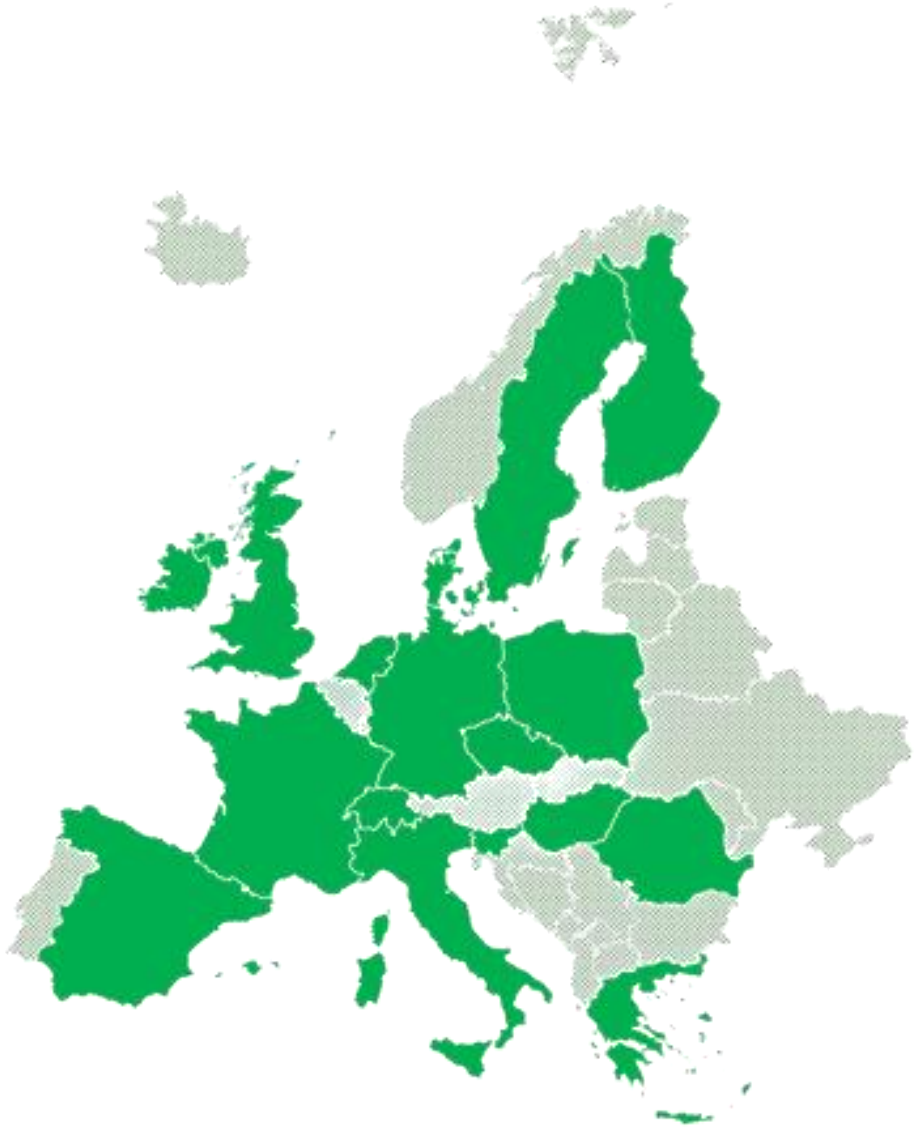
34

Months

48

Funding

€ 11.030.575,00



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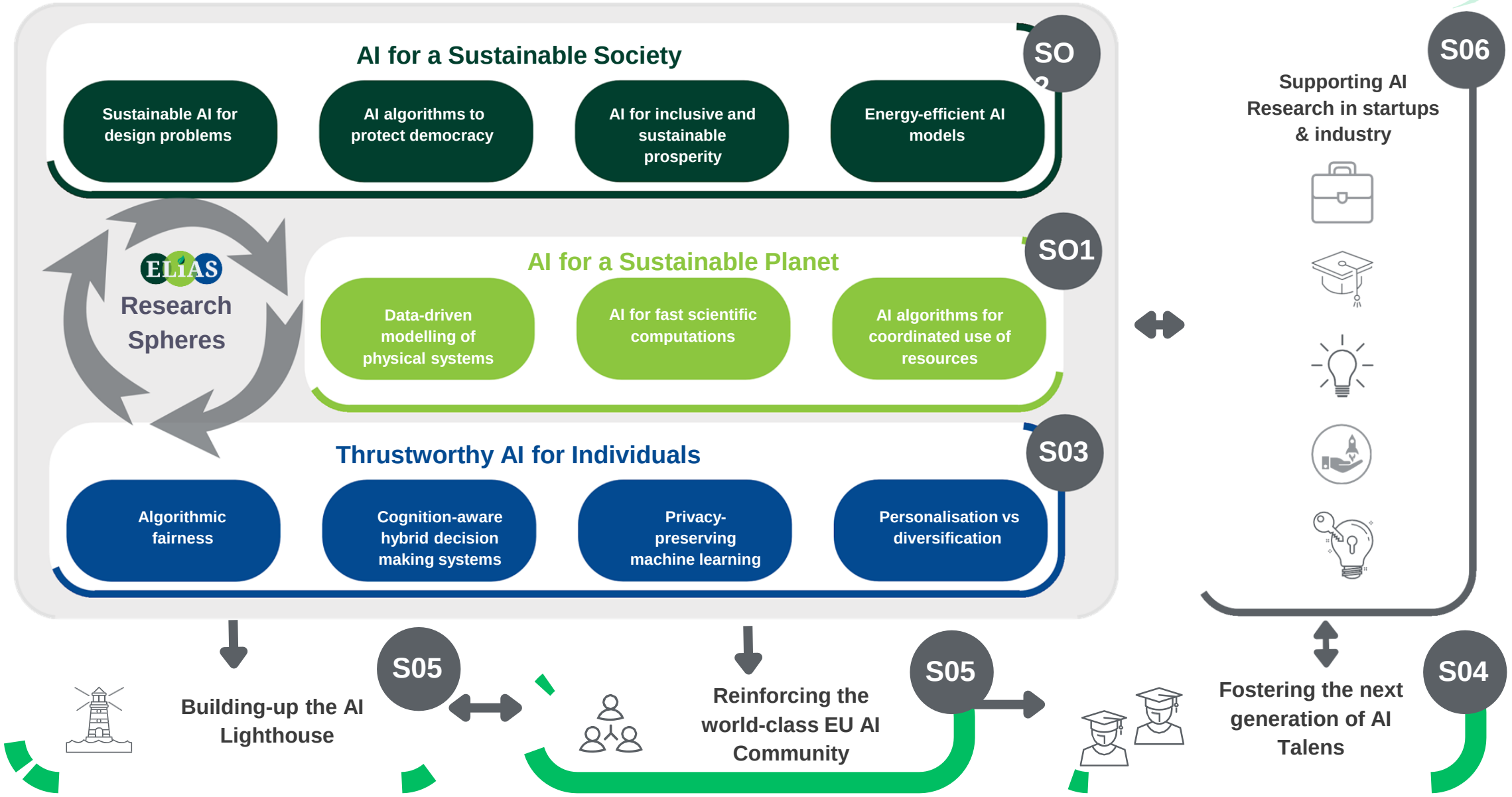

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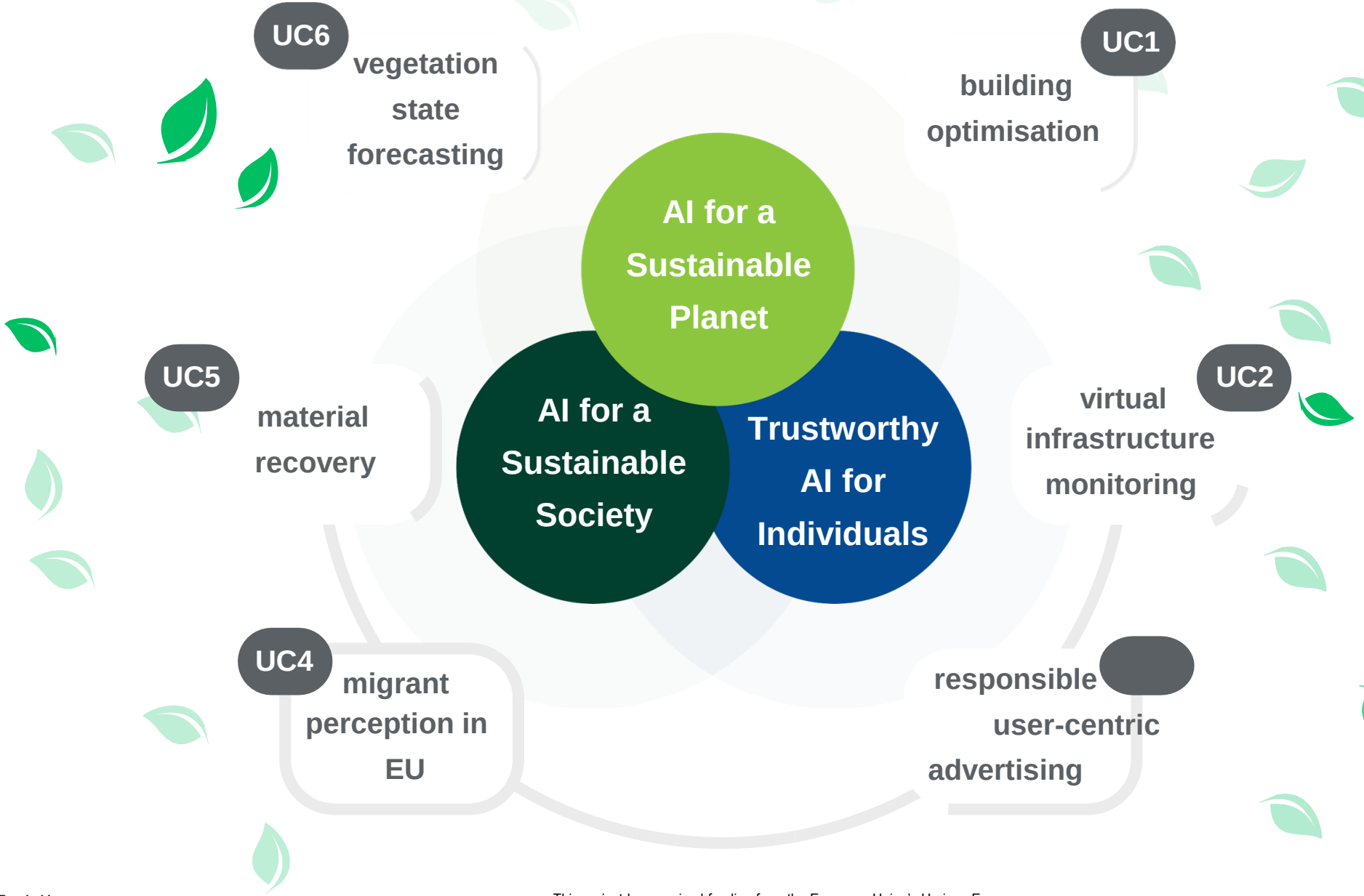

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ELLIS PROJECTS WITH MOBILITY FUNDS

elsa
European Lighthouse on Secure and Safe AI

https://elsa-ai.eu/phd-postdoc/

(08/2025)

ELIAS
European Lighthouse of AI for Sustainability

https://elias-ai.eu/mobility-program/

(08/2027)

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elias_project

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elias-coordination@unitn.it

ELLIS | ellis.eu is a pan-European AI network which aims to secure lasting international leadership of AI made in Europe by connecting top researchers in this field and by creating a multi-centric AI research laboratory.
ELLIS has more than 1,000 members, 43 sites, 16 cross-national research programs and a pan-European PhD program.

EllisforEurope

ellisforeurope

info@ellis.eu

ELSA | elsa-ai.eu leads research in foundational safe and secure AI methods, pursuing the development of robustness guarantees and certificates, privacy-preserving and robust collaborative learning, and human control mechanisms for the ethical and secure use of AI.

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ELISE | elise-ai.eu convenes leading researchers in machine learning, pursuing research to accelerate innovation and adoption of these technologies in ways that safely and effectively address real-world challenges.

ai_elise

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www.elias-ai.eu
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