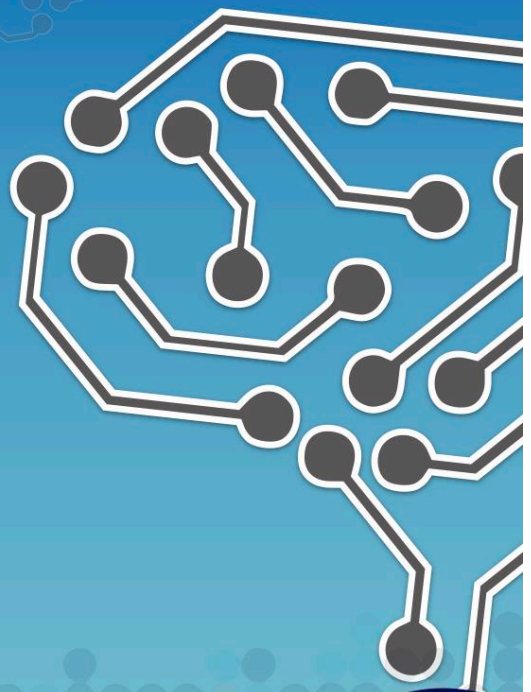
ICT-48-2020:
Towards a vibrant European Network of AI excellence centres



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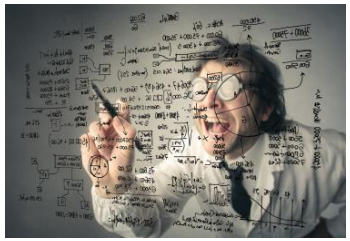
ICT-48 European Network of AI Excellence Centers

Collaborative projects focus on ONE OR SEVERAL of the following topics & bring necessary competencies :



- ***Advances in FOUNDATIONS of AI (e.g.: learning and reasoning approaches) and APPROACHES for TR AI SOLUTIONS (including explainable AI, un AI, safety, reliability, verifiability etc.),***
- ***Developing the next generation of INTELI ROBOTS,***

- ***Advanced PERCEPTION or INTERACTION with humans (for human-centered AI) and environments.***

- ***AI at the EDGE and HARDWARE for AI.***

HumanE AI Net

A Network of Centers of Excellence

Topic: Advanced Perception and Interaction with Humans.

Ambition: HumanE AI Net will develop scientific foundations and enabling technologies for AI systems that can understand and assist humans, enhance human capabilities, and empower individuals and society as a whole.

Coordinator: Paul Lukowicz (DFKI).

Local partners: INRIA, and UGA.

A copy of the proposal is available at
http://crowley-coutaz.fr/jlc/HumanE-AI-Net/HumanE-AI-Net-proposal.pdf

HumanE AI Net

Funding: 12 M Euros for 36 months.

Approach:

- Five Workpackages devoted to scientific areas in Human Centric AI + Four Workpackages devoted to societal impacts.
- Each workpackage organised as a set of specialised “Topics”.
- Collaborative Micro-projects respond to research challenges defined in each workpackage
- Collaborative Micro-projects are proposed “bottom-up” by researcher and selected by each Work package committee
- Projects are selected and managed by the WP leader, assisted by a committee of topic leaders from the WP.

Collaborative Micro-projects:

Definition: A small group of researchers (2-5) from different organizations working together to provide a tangible result made available through the AI4EU platform.

Example Results: a data set, a software library, a software component, a paper, workshop with proceedings, an on-line Tutorial

Micro projects terminate with a presentation in a project meeting.

Duration: 1 to 6 months

Effort: 6 – 12 PMs (2 to 6 PM per partner)

Limit: 1 micro-project per person at a time.

Funding: Each partner has 60K€ pre-allocated for Collaborative Micro-projects.
(You do not have to be listed in a WP to propose a Micro-projects.)
When the pre-allocated funds are spent, the partner can request more.

2 M€ Open funding: 1 M€ for HAI partners, 1 M€ for third-parties

Collaborative Micro-projects

Each Work package will organize meetings to

- Report results of recent micro-projects
- Define challenges
- Brainstorm on possible micro-projects.

Initially we will concentrate on inciting micro-projects that use the pre-assigned funding at each partner for topics listed in the proposal.

In 2021 we will organize an open process to solicit proposals based on initial internal experiences with first batch.

Cross WP micro-projects are encouraged!

HumanE AI net Workplan

WP 1 Interactive Learning, Reasoning and Planning

WP 2 Multi-Modal Perception and Modeling

WP 3 Human AI Interaction and Collaboration

WP 4 Social AI

WP 5 AI Ethics and Responsible AI

WP 6 Applied research with industrial and societal use cases

WP 7 Innovation Ecosystem and Socio-Economic Impact

WP 8 Virtual Center of Excellence, Capacity building and Dissemination

WP 9 Synergies with AI on demand platform(s) and the Broader European AI Community

WP 10 Management and Governance

WP 1 Learning, Reasoning and Planning with Human in the Loop

Coordinator: John Shaw-Taylor (UCL)

Partners: AALTO, Algebraic AI, ATHENA, CNR, CNRS, CSIC, ELTE, INESC TEC, JSI, LMU, STICHTING, TUB, TU WIEN, UCC, UCPH, ULEI, UNIBO, UNIPI, UCL, UOS, UPF), VW

Topics (tasks):

- T1.1 Linking symbolic and subsymbolic learning (STICHTING)
- T1.2 Learning with and about narratives (INESC)
- T1.3 Continuous & incremental learning in joint human/AI systems (UCL)
- T1.4 Compositionality and Auto ML (Leiden)
- T1.5 Quantifying model uncertainty (Aalto)
- T1.6: Consolidation and coordination of the research agenda (STICHTING)
- T1.7: Responsible Research and Innovation Assessment (UCL)

Example Collaborative Micro-projects:

(1) recommend educational paths for life-long learning

(2) Learning the compositional structure of environments

WP 2 Multi-Modal Perception and Modeling

Coordinator James Crowley (INRIA)

Partners: DFKI, ATHENA, CNR, CNRS, CU, INESC TEC, INRIA, JSI, ORU, SORBONNE, TUBITAK, TU WIEN, UCPH, UGA, ULEI, UNIBO, UNIPI, UCL, WARSAW, UOS, UVB

Topics (tasks):

T2.1: Learning of multimodal models grounded in physical reality (DFKI)

T2.2: Multimodal perception and modeling of actions, activities and tasks (INRIA)

T2.3: Multimodal perception of awareness, emotions, and attitudes. (INRIA)

T2.4: Perception of Social Signals and Social Dynamics (SORBONNE)

T2.5: Distributed Collaborative Perception and Modeling (UNIPI)

T2.6: Dealing with lack of labeled training data (DFKI)

T2.7: Assembling benchmark datasets (SUSSEX)

T2.8: Consolidation and coordination of the research agenda (INRIA)

T2.9: Responsible Research and Innovation Assessment (RRIA) (INRIA)

Examples of Collaborative Micro-projects:

(1) Narrative Description and Assistance for Kitchen Activities.

(2) Challenge in computational behavioral analytics with AI and sensors.

WP 3 Human AI Interaction and Collaboration

Coordinator Antti Oulasvirta (Aalto)

Partners: DFKI, AALTO, ATHENA, BRNO U, CNR, CNRS, CU, FBK, INRIA, IST, LMU, ORU, SORBONNE, STICHTING, TILDE, TU DELFT, TU WIEN , UCPH, ULEI, UMU, UCL, WARSAW, UOS, UPF

Topics (tasks):

- T3.1 Foundations of Human-AI interaction and Collaboration (INRIA)
- T3.2 Human-AI Interaction/collaboration paradigms (LMU)
- T3.3 Reflexivity and Adaptation in Human AI collaboration (UCL)
- T3.4 User Models and Interaction History (STICHTING)
- T3.5 Visualization Interactions, and Guidance (TU Wien)
- T3.6 Language-based and Multilingual Interaction (CU, BUT, DFKI)
- T3.7 Conversational, Collaborative AI (IST)
- T3.8 Trustworthy Social and Sociable interaction (Warsaw)
- T3.9: Consolidation and coordination of the research agenda (Aalto)
- T3.10: Responsible Research and Innovation Assessment

Examples of Collaborative Micro-projects:

- (1) Interactive Reflective human-AI systems.
- (2) Empathy in human-AI systems
- (3) Minutes of Multi-party Multi-lingual Meetings

WP 4 Societal AI

Coordinator Dino Pedreschi (UNIPI)

Key Partners: BRNO U, CNR, IST, SAP, SORBONNE, ULEI, UMU, UNIBO, UNIPI, WARSAW, UOS

Topics (tasks):

T4.1: Graybox models of society scale, networked hybrid human-AI systems (CEU)

T4.2: Individual vs. collective goals of AI systems (CNR)

T4.3: Societal impact of AI systems (UNIBO)

T4.4: Self-organized, socially distributed information processing in AI-based techno-social systems (Warsaw)

T4.5: Consolidation and coordination of the research agenda (UNIPI)

T4.6: Responsible Research and Innovation Assessment (UNIPI)

Examples of Collaborative Micro-projects:

(1) Network effects of mobility navigation systems.

(2) Characterize the behavior of a distributed AI system on top of a social network

(3) Social norms to counteract misinformation in human-AI hybrid systems

WP 5 Ethics, Law and Responsible AI

Coordinator Virginia Digman (UMEA)

Key Partners: UMEA, LPbD, VUB, CNR Pisa, (TU Delft)

Topics (tasks):

T5.1: 'Legal Protection by Design' (LPbD) (VUB)

T5.2: Empirical study of LPbD aspects of real life projects (VUB)

T5.3: 'Ethics by design' for autonomous and collaborative, assistive AI systems (CNR Pisa)

T5.4: "Ethics in design": methods and tools for the responsible development of AI systems. (TU Delft)

T5.5: Support of RRIA of Tasks 2, 3, 4, 6, 8 (UMEA)

T5.6: Consolidation and coordination of the research agenda (UMEA)

Examples of Collaborative Micro-projects:

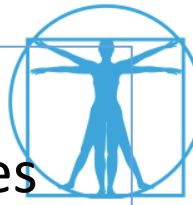
(1) AI based assistive technologies.

(2) Ethical games

(3) Explanatory Tool for Clinical Analysis of Patients

(4) Formal Specification of Values.

WP 6 Applied research with industrial and societal use cases



Coordinator DFKI

Key Partners: DFKI, SAP, BSC, TUK, DFKI, BSC, SAP, Tilde, Cu, Philips, Volkswagen, INP, Generali, Airbus, Telefonica, TUK, ETHZ

Topics (tasks):

- T6.1 Security Issues (SAP)
- T6.2 Hardware platforms and resources (BSC, TUK)
- T6.3 Software platforms and frameworks (DFKI, BSC, SAP)
- T6.4 Language technology and multilinguality (Tilde, CU,DFKI)
- T6.5 Health related research agenda and industrial use cases (Philips)
- T6.6 Mobility/automotive related research agenda and industrial use cases (Volkswagen)
- T6.7 FinTec related research agenda and industrial use cases (ING)
- T6.8 Insurance related research agenda and industrial use cases (Generali)
- T6.9 Aerospace related research agenda and industrial use cases (Airbus)
- T6.10 Telco related research agenda and industrial use cases (Telefonica)
- T6.11 AI for Education (TUK)
- T6.12 AI for social good (ETHZ)
- T6.13: Consolidation and coordination of the research agenda (DFKI)

Examples of Collaborative Micro-projects:

(1) AI coach for behavioral change

(2): Improving air quality in large cities using mobile phone data and AI.

How to Propose a Collaborative Micro-project

1) Define the tangible output (to be up installed on the AI4EU platform)
2) Recruit your collaborators
3) Define roles, objectives and tasks for collaborators
4) Prepare a 1 page application form
6) Submit the proposal to a Work package Committee.

The best way to succeed is to brainstorm on possible projects at WP meetings.

Draft Application (under discussion):

HumanE AI Net Micro-Project Report Form
Title:
Description of Results ***(5-10 lines)***
Task(s) involved : number (s) and title (s) as specified written in the proposal
Partners and actual effort (as will be claimed from the EU) ***Partner 1:*** Name, actual effort in PMs ***Partner 2:*** Name, actual effort in PMs …….. ***Partner N:*** Name, actual effort in PMs
External partners (if applicable) What was the impact of the external partner, what costs were reimbursed how. 5-10 line
Tangible output. Bullet list, 1-2 lines per output (e.g. paper in …., toolset, data set, demo, tutorial etc.), including how it is available from where
Approval / remarks of WP leader(s).