CLAIRE signs trendsetting Memorandums of Understandings

Shaping Europe's Future: The Italian National Inter-University Consortium for Informatics (CINI) and the Associazione Big Data (ABD), as well as the Marie Curie Alumni Association (MCAA), are now on board to strengthen European Artificial Intelligence (AI) as partners of the CLAIRE initiative (Confederation of Laboratories for Artificial Intelligence Research in Europe).

On the 14th of July CLAIRE signed memorandums of understanding (MoU) with both CINI and ABD (claire-ai.org/mou_claire_cini_abd), as well as with the MCAA (claire-ai.org/mou_claire_mcaa). The former MoU will enable the CLAIRE and CINI communities to develop their research using supercomputers provided by the Members of the Associazione Big Data (CINECA, CMCC, ENEA, INFN), while the latter establishes the collaboration between CLAIRE and the Marie Curie Alumni Association to share communication resources. Both of these MoUs bring valuable resources to fulfil the CLAIRE Vision (https://claire-ai.org/claire-vision/).

CLAIRE is currently supported by another 36 institutions and organisations, who actively help to strengthen European excellence in AI research and innovation. These new MoUs will complement and enhance this existing network.

The cooperation of researchers from the various institutions within the COVID-19 Task Force, which formed the starting point for the partnership with CINI and ABD, has clearly demonstrated the advantages of bundling artificial intelligence and high-performance computing resources to ensure successful outcomes and further emphasised the need for cooperation. The planned collaboration on information sharing and joint training opportunities with MCAA's worldwide network of researchers is expected to produce similar results.

Joint Forces With A Joint Strategy For Science: AI And High-Performance Computing (HPC)

This MoU is aimed at facilitating the interaction between HPC and AI scientists, and to establish the basis for HPC+AI-enabled digital twin technology, improving preparedness for future pandemics and new challenges.

In the European landscape, access to HPC infrastructure for research projects on COVID-19 is guaranteed by several national and pan-European initiatives, such as the PRACE (https://prace-ri.eu) and the ABD initiative (https://associazionebigdata.it/projects/). These programs grant access to HPC resources for COVID-19 research, along with the traditional HPC provisioning model. However, they are not always matching the AI community needs.

– All European states are developing their own national strategies for AI and High-Performance Computing (HPC), but grand challenges are propelling science, not strategies. A grand challenge sets a bar, it stimulates scientists from different countries to coordinate, and disciplines to go beyond the state of the art. What we are shaping today is a new grand challenge for AI and HPC. AI technologies are already at the heart of many of the ICT tools we use every day, but they are not fully exploited in scientific software, where traditional HPC methodologies are still the

paradigm of choice. We do believe that AI and HPC are fated to meet. – *says Prof. Aldinucci, Professor at the University of Torino. –*
This MoU will enable AI experts and scientists from other disciplines working on COVID-19-related subjects to efficiently use supercomputers, fostering AI research by running AI workloads (also with medical data) on large HPC platforms not traditionally conceived for those kinds of tasks.

The idea for the new partnership emerged during the activities of CLAIRE's Task Force on AI & COVID-19, as a method to increase the speed, quality and effectiveness of COVID-19 diagnosis. The MoU can be considered one of the first prototypes of a new tool in the European digital strategy toolbox, dubbed "urgent computing ".

CLAIRE launched a volunteer effort, in March 2020, to help tackle the pandemic and put into place a task force to coordinate the effort and the volunteer experts supporting it. This task force collected information on leveraging AI techniques in the context of COVID-19 and supported the development of new projects, connecting the European network of AI experts together with health institutions and governments. By the end of March, the task force had enrolled 150 volunteers, covering the full spectrum of AI methods, tools and technologies.

The cooperation of researchers from various institutions within the COVID-19 Task Force has clearly demonstrated the advantages of bundling resources in order to be more successful and further emphasised the need to cooperate.

– The collaboration between CLAIRE, CINI and ABD emerged during the CLAIRE COVID-19 Task Force's activities, a very valuable experience where the talented AI researchers of the Task Force worked together with domain experts to support European governments and health institutions tackling the pandemic. The different research groups reached significant results within a few months, such as the assembly of the first comprehensive data resource to help scientists and medics worldwide repurpose existing drugs to fight COVID-19, the integration of data from different sources, like self-reported data on COVID-19 symptoms and mobility data, to predict the spread of the virus, and the collection and comparison of all the different models for analysing medical data images. - *says Emanuela Girardi - co-coordinator of the CLAIRE COVID-19 Task Force.* –These fruitful collaborations among researchers across Europe and the agreement that CLAIRE signed with ABD and CINI show that Europe urgently needs to build a European AI ecosystem to support the development of strategic areas such as health, to foster AI research and improve the quality of life for all European Citizens.

CLAIRE And Marie Curie Alumni Association - Sharing Communication Resources

– Marie Skłodowska-Curie Fellowships play a crucial role in forming and leveraging Europe's talent in research and innovation, *says Prof. Hoos, co-founder and chair of the board of CLAIRE.* – Considering the opportunities and need for top talent in artificial intelligence, we are very excited to begin a partnership with the Marie Curie Alumni Association (MCAA). We have come to realise that our research network and other CLAIRE activities will be of high interest to former (and current) Marie Skłodowska-Curie Fellows, and that the fellows have much to offer to AI research in Europe.

Marie Skłodowska-Curie Actions (MSCA) are a set of major research fellowships created by the European Union/European Commission to support research in the European Research Area (ERA). These fellowships are among Europe's most competitive and prestigious research and

innovation awards. Established in 1996 as Marie Curie Actions and known since 2014 as Marie Skłodowska-Curie Actions, they aim to foster the career development and further training of researchers at all career stages. The MSCA promotes interdisciplinary research and international collaborations, supporting scientists from not only within Europe but also across the globe.

– From its beginning, MCAA has strived to create a synergy of integrated intelligence, be it artificial or natural, be it from intuition or experience, be it from discovery or creation. MCAA centres intelligence from all possible paradigms through building networks and presenting opportunities in research and career development. MCAA, therefore, gladly welcomes the inclusion and the potential of integrated artificial intelligence to its aspirations. We hope that this partnership with CLAIRE will bring mutual benefits and form novel opportunities for collaboration. - *says Dr. Mostafa Moonir Shawrav, Chair of the Marie Curie Alumni Association.*

Both CLAIRE and MCAA have an explicit vision of using technology and knowledge for the benefit of society. Hence, it was natural for both institutions to agree on joining forces to promote European AI.

Collaboration between CLAIRE and MCAA will contribute to the development of the European AI community. Specifically, this partnership will provide members of both networks timely and updated information on their activities, including the latest information on the use of AI in research and innovation, events and research opportunities. Furthermore, both institutions will start evaluating mechanisms to mutually offer training opportunities on topics including upscaling of technical and soft-skills, career development, technological innovation and social implications of technology.

At this moment, where EU leaders are taking important steps to define the strategy that will direct development and application of AI, the collaboration between CLAIRE and MCAA will be important to leverage their strengths and mutually support their vision and goals.

About CLAIRE

The Confederation of Laboratories for Artificial Intelligence Research in Europe (CLAIRE) (https://claire-ai.org) is an organisation created by the European AI community that seeks to strengthen European excellence in AI research and innovation, with a strong focus on human-centred AI. CLAIRE aims to ensure that societies and citizens across all of Europe, and beyond, benefit from AI as a major driver of innovation, future growth and competitiveness, and to achieve world-wide brand recognition for "AI made in Europe".

CLAIRE, founded in 2018, has garnered the support of more than 3500 AI experts and stakeholders, who jointly represent the vast majority of Europe's AI community, spanning academia and industry, research and innovation. Among them are more than 140 fellows from various key scientific associations. CLAIRE has opened administrative offices in The Hague (HQ), Brussels, Oslo, Paris, Prague, Rome, Saarbrücken and Zürich.

CLAIRE's membership network consists of over 380 research groups and institutions, covering jointly more than 21,000 employees in 35 countries. Furthermore, CLAIRE is currently in the process of setting up an Innovation Network that, together with the established Research Network, will foster a strong link between research and industry.

The CLAIRE vision is officially supported by the governments of nine European countries, 28 scientific associations across all of Europe, the European Association for Artificial Intelligence (EurAI), the Association for the Advancement of Artificial Intelligence (AAAI), and the European Space Agency (ESA).

CLAIRE is also actively liaising with other important AI-organisations, including ELLIS, the HumanE AI consortium, the Big Data Value Association, euRobotics and AI4EU.

About CINI

CINI (Italian National Inter-University Consortium for Informatics) (https://www.consorzio-cini.it/), a consortium of 47 public Italian universities, is today the main point of reference for the national academic research in the fields of Computer Engineering, Computer Science, and Information Technologies. CINI aims at providing added value to the member Universities, the Italian production system, the Italian Public Administration, and the overall country, being the representative of the almost whole Italian Academic Informatics Community.

Established in 6.12.1989, CINI is under the supervision of the competent Italian Ministry for University and Research.

CINI promotes and coordinates scientific activities of research and technological transfer, both basic and applicative, in several fields of Computer Science and Computer Engineering, and including specifics National Laboratories, focused on: Artificial Intelligence and Intelligent Systems (AXIS), Assistive Technologies (AsTech), Big Data, Cybersecurity, Digital Health, Embedded Systems & Smart Manufacturing, Formal Methods and Algorithmics for Life Sciences (Infolife), HPC: Key Technologies and tools, ICT Skills, Training, and Certification (CFC), Informatica & Società, Informatica e Scuola; Smart Cities and Communities Tecnologie Multimediali (ITeM).

About Associazione Big Data

The "Associazione Big Data" ((https://associazionebigdata.it/)) is an organization that was set up to interconnect and jointly exploit the knowledge, capacities, research and innovation potentials of the stakeholders community involved in supercomputing and big data production and management to leverage the effects of actions and investments made so far and to maximize their impacts, locally but also at national, EU and international levels.

The "Associazione Big Data" aims at the sharing and exploiting of existing results, knowledge, capacities, research and innovation initiatives and frameworks at the cooperation between public and private entities, maximizing the leverage effects of R&I public and private investments. The members of ABD who promote the access to supercomputing resources are: CINECA (Italian National Supercomputing Center), CMCC (Euro-Mediterranean Center on Climate Change), ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development), INFN (National Institute for Nuclear Physics).

About Marie Curie Alumni Association

Marie Curie Alumni Association (MCAA) (https://www.mariecuriealumni.eu/) is a global network of researchers, who have benefited - or are benefitting - from Marie Skłodowska-Curie Actions. Since 2014, MCAA has been an AISBL (international not-for-profit association) under Belgian law. The association's membership is distributed worldwide, with members hailing from 143 different countries. It has more than 16000 members who interact in 30 geographical chapters and 7 working groups. MCAA is dedicated to the support and advancement of knowledge for a global, diverse, and informed society.

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