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The ESA/CLAIRES “AI Special Interest Group on Space” is born

ESA announces the creation of the World’s first AI Special Interest Group, or **SIG**, dedicated to Space and related sciences, established in partnership with CLAIRE, Europe’s largest Artificial Intelligence research network.

The SIG’s goal is to accelerate the development of both AI and space-related research, and forms a key part of ESA’s wider strategy to accelerate the use of AI in Europe’s space and related industries and research communities. It will have a very practical focus, organising events and workshops to bring European AI and space experts together, supporting exchanges between these communities and identifying the key themes for collaboration that could be funded by ESA’s and other research programmes.

It will offer the perfect opportunity for scientists to tackle major problems in space related sciences and to challenge AI researchers to create new methods and approaches. Monitoring climate change using satellites measurements, designing autonomous rovers to explore other planets, or identifying objects using astronomical observatories in orbit: all these issues are very rich in data and for this reason are an ideal field of application for the latest AI techniques, and in turn are expected to generate new AI science.

As a result, the SIG will not only develop AI for space-related topics, but help the development of all AI technologies in Europe, including machine learning, automated reasoning, planning and optimisation, robotics and multi-agent systems. Many areas of AI will take advantage of the stimulating and cooperative activities to be created by ESA and CLAIRE.

Concerning this partnership, ESA Director General Jan Wörner said “CLAIRES has planted the flag for Europe’s ambitions on AI and we congratulate them. Our work together establishing the World’s first AI Special Interest Group on Space is a key part of ESA’s programme to realise the benefits of space for society in the era of Space 4.0.”

ESA Director of Earth Observation Josef Aschbacher said “The collaboration with CLAIRE is essential to accelerate the adoption of AI in our industry and research partners. Our work together under the AI Special Interest Group on Space will help European Earth observation scientists and industries to remain world leaders. And we are proud to host the secretariat of this initiative in our Φ-Lab.”

CLAIRES co-founder Prof Holger Hoos said “Advancing European AI is the mission of CLAIRE, and our partnership with ESA in establishing the AI Special Interest Group for Space will help us accelerate development of European AI, of human-centric, trustworthy AI made in Europe. The rich and diverse problems that face Europe’s space engineers and scientists will help us develop whole new categories of AI science and technology.”

Work between ESA and CLAIRE has started with a series of workshops on AI and Climate Change already underway, and further workshops on AI and spacecraft engineering planned. These will define roadmaps for collaborations with AI scientist on specific topics, such as glacier monitoring or spacecraft manufacturing and optimisation, and to identify joint AI and space-related projects for ESA and others to fund. In 2020, ESA will announce opportunities for 70 visiting AI scholars, of which 50 will work with climate change and Earth

observation scientists and 20 with space technology experts. Competitions on space related topics to generate AI solutions are also planned.

ESA will host the secretariat of the SIG at ESA/ESRIN Φ -Lab, one of ESA's innovation incubators with a special focus on AI and an ideal home for this new-born AI Special Interest Group on Space.

The members of the AI Special Interest Group on Space are:

Prof Enrique Alba, University of Málaga, Spain

Prof Rita Cucchiara, University of Modena, Italy

Alessandro Donati, Deputy-Head of ESA's Digital Technologies community, Germany

Prof Saso Dzeroski, Jozef Stefan Institute, Slovenia

Raffaella Franco, Head of ESA's Digital Technologies community, The Netherlands

Malik Ghallab, Director of Research, CNRS, France

Prof Holger Hoos, Leiden University, The Netherlands

Bianca Hörsch, ESA Chief Digital Officer, France

Iarla Kilbane-Dawe, Head of Φ -lab, ESA Earth Observation Programme, Italy

Leopold Summerer, Head of ESA Advanced Concepts and Studies Office, The Netherlands

Prof Leon van der Torre, University of Luxembourg, Luxembourg