MSCA-NET

Widening Country Success Story

"Present clearly the state-of-the-art and what research gaps your proposal will try to cover."

Name of the fellow: Eleni Tsalapati
Country of the host: Greece
Project Acronym: QuAre
Project start and end date: 1.01.2021-31.12.2023
Type of MSCA, Horizon 2020: Individual Fellowship

What is your project about and why is the topic important for science advancement?

The aim of QuAre project was to utilise next generation data and knowledge technology paradigms (i.e. ontology-based systems, knowledge-graph-based systems) to represent this knowledge in a human and machine processable form such that decision-making processes can be automated and deeper engineering insights can be obtained. To achieve this, I implemented a radical cross-disciplinary methodological approach, by developing new spatio-temporal knowledge representations and reasoning and instilling them with natural language processing techniques. The QuAre paradigm was put to test and fine-tuned on the diagnosis and prognosis of polymer electrolyte fuel cell systems (PEMFC).

Why is your project important for society?

QuAre is connected to issues related to climate change: the recently proposed strategic technologies for Europe platform (STEP) includes clean technologies as one of its three priority areas. In terms of energy, these clean technologies include, among others, fuel cells. In this project, we provided a transparent and explainable tool that ensures not only early fault diagnosis and prognosis of PEMFC systems but also provides the end user with mitigation actions to prevent the failure of the system, enhancing in this way, its reliability and robustness.
Additionally, in line with the AI Act for trustworthy AI systems, the health monitoring platform developed within the project is a robust, resilient, reliable, explainable and transparent AI system.

Why did you choose a widening country as a host?

I felt it was about time to return to my home country and put into practice all the new knowledge and experiences that I had acquired while abroad, while at the same time communicate the developments to the University of Loughborough that I was coming from.

How did you find your host organisation?

I first chose the supervisor Prof. Manolis Koubarakis. Manolis is one of the top Professors in the domain of Semantic Web and he was interested in blending his expertise with the new advancements in Natural Language Processing. Hence, I felt that this collaboration would further my research career.

What kind of support did you get?

The research administration team at my former institution, the University of Loughborough, has been extremely helpful in providing support via well-planned seminars on MSC actions. While preparing my proposal, I regularly reflected upon the EU research priorities and societal challenges; the European Parliament fact sheets have been extremely useful in that regard.

What tips can you give other researchers who would like to apply for MSCA?

The starting point would be to build your proposal on a research idea that you already have some background on (i.e. research papers). Then present clearly and in a way that even a non-expert would understand the state-of-the-art and what research gaps your proposal will try to cover. Finally, it is crucial to articulate what value you will bring to the host institution, i.e. demonstrate that you will establish an optimal two-way transfer mechanism for knowledge.

More information on the project:

The Marie Sklodowska-Curie Actions (MSCA) support researchers at all stage of their career across all disciplines. The MSCA also support cooperation between industry and academia and provide innovative trainings and career developments.

The MSCA Individual Fellowships (IF) provide opportunities to researchers of any nationality to acquire and transfer new knowledge and to work on research and innovation in Europe and beyond.

The MSCA-NET project is the MSCA NCP project to facilitate the transnational cooperation to achieve a consistent and harmonised level of NCP support. The scientific community can also profit from our project to support their MSCA application.