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Short Biographical Information and Activities

My main interests and experience are in the areas of signal processing and machine learning, autonomous systems, sensor data fusion and navigation. With my team we have been working on the development of novel scalable methods for high dimensional problems, including mage and video processing, intelligent transport systems, localisation and positioning in sensor networks. Recent works include the development of trustworthy solutions, e.g. for enhancing autonomy of robot inspection in challenging dynamic environments.

Editorial activities:

- Associate Editor-in-Chief for the IEEE Transactions on Aerospace and Electronic Systems
- Associate Editor of Elsevier Signal Processing Journal.
- Serving to the scientific community also as a member of the Organising Committee of international conferences and symposia, including the International Conferences on Information Fusion (since 2004), the American Control Conferences (since 2007), conferences on Intelligent Transportation Systems (2010), the German workshops on Multiple Sensor Data Fusion, International Conference on Acoustics and Signal Processing (ICASSP) and others.

My research is funded by the EPSRC, Dstl, Horizon Europe, DOD, industry and other sources.

Mission Statement for the Fusion Community

We have exciting opportunities to create leading technologies and methods for autonomous systems, machine learning and AI both theoretically and in practice. Now, when things move at a very fast pace, the development of resilient, trustworthy solutions is crucial. These need to be able to process multiple heterogeneous sensor data. Developing scalable and modular approaches able to work in changeable conditions and facilitate decision making with different levels of autonomy is one of the main tasks. There are many methodological questions to answer, and the applications are numerous – smart cities, assisted living, surveillance, search and rescue, to name a few.

In these particularly challenging times, making use of this high information potential, the sensor and contextual data need to be "fused" in such a way that high quality information results serving as a basis for decision support.

As a member of the ISIF board I will enhance international collaboration at all levels, including:

- Broadening the fusion community with the members from the AI, explainable AI, Machine Learning, autonomous systems, data science and other domains.
- Making bridges between multi-dimensional areas of engineering (robotics, aerospace, applied mathematics and others)
- Organising symposia and lecture series, e.g., NATO funded training schools and UK Data Fusion and AI workshops.
- Launching of joint project proposals, especially in the areas of global research engineering challenges;
- Strengthen the networking activities in the area of sensor data fusion at local level and international. These include exchange of expert visits and PhD students;
- Knowledge exchange between academia and industry;
- Promoting open source software platforms such as Stone Soup and open public data repositories for benchmark case studies;
- Will continue promoting the sensor data fusion activities in all aspects and contribute to strategic and management decisions.

My experience and insights will be at your service to further growth of the fusion community, to respond to challenges both from technological and social point of view. Understanding the ISIF member's needs, in this important time of changes, we can make things happen with collegial spirit and good communications.