

## **Special Session 12: Artificial Intelligence for Multimedia Security Applications**

The analysis of images, audios, and videos for security-oriented applications has recently received a new boost thanks to the development of powerful methods relying on the advancements of Artificial Intelligence (AI) and in particular Deep Learning (DL). By exploiting DL tools, in fact, new methods have been proposed whose performance greatly exceed those achieved by state-of-the-art approaches based on conventional signal processing tools and machine learning. On the other hand, AI has raised the problem of the counterfeiting of multimedia data to an unprecedented level. Together with the problems raised by the inherent vulnerability and fragility of deep networks, new serious threats to privacy and security are then posed, with the consequent need for advanced systems capable of working under more and more challenging conditions. This special session aims at drawing the attention of researchers towards the new challenges posed by the use of AI in security-oriented applications, including the susceptibility to adversarial attacks, the need for a huge amount of labeled training data, the risk of data overfitting with consequent failures in the presence of unforeseen situations at test time, etc..... The contributed papers propose advanced AI techniques which exploit DL methods for a wide variety of multimedia security applications. They also investigate the more general problem of a systematic development of secure AI tools, by proposing novel approaches capable of overcoming the limitations of state-of-the-art DL methods, still leveraging on the superior capability offered by modern AI tools.

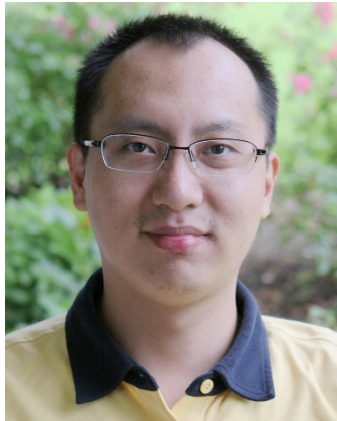
### **Organizers:**



Mauro Barni  
University of Siena, Italy



Jiwu Huang  
Shenzhen University, China



Bin Li  
Shenzhen University, China



Benedetta Tondi  
University of Siena, Italy