

Keynote On

Neuromorphic Computing Architectures for Robot Vision in Marine Harsh Environments

The design of robots that interact autonomously with the environment and exhibit complex behaviors is an open challenge that can benefit from understanding what makes living beings fit to act in the world. Neuromorphic engineering studies neural computational principles to develop technologies that can provide a computing substrate for building compact and low-power processing systems. In this talk shows why the robots with neuromorphic technologies – from perception to motor control – represents a promising approach for the creation of robots which can be more intelligent and autonomous. This keynote addresses computational aspects of implementing robotic and computer vision algorithms that are based on neurocomputing paradigms for robot vision and harsh environments. Different algorithms have been translated to this new approach where the multi-sensing data with probabilistic distributions, are used to navigate in marine and harsh environments. In the talk we address our current attempt to implement efficient “haze removal” CNN to remove the distortion from underwater images and increase the quality and performance of the machine learning programs which improves navigation of marine robots.