Capsule networks and autonomous systems

Capsule Networks is an emerging building-block of deep learning discipline that trains the network to inversely render the processes of autonomous systems and predict various in-built features in order to achieve a state-of-the-art performance with simple data sets. This emerging deep learning-based autonomous system provides innovative dynamic routing mechanism between capsules to solve various problems defined on the smart autonomous systems. Capsule networks are closely related to the convolutional neural networks with a group of neurons that tends to represent various system entities from a different viewpoint with comparatively less training data.

The first paper “Intensive packet domain mining engine (IPDME): a high-speed pre-processor for network intrusion detection” accomplishes the high bandwidth, less latency and less energy consumption by using GPDU preprocessors. The second paper “Indoor and outdoor image classification: a mixture of brightness, straight line, Euclidean shapes and recursive shapes based approach” compared the different feature combinations to overcome the problem of varying number of feature vectors, of the feature-set, corresponding to the number of segments in the scene. The third paper “Makespan of routing and security in cross centric intrusion detection system (CCIDS) over black hole attacks and rushing attacks in MANET,” the authors proposed an enhancement of cross centric intrusion detection system named as PIHNSPRA Routing Algorithm (PIHNSPRA) for secure routing in mobile *ad hoc* networks. And the fourth paper “Ship detection and recognition for offshore and inshore applications: a survey” provides the detailed study of ship detection and recognition systems based on the various classifier techniques including the future investigation process for better image enhancement. The fifth paper focuses on “Semantic tracking and recommendation using fourfold similarity measure from large scale data using Hadoop distributed framework in cloud,” proposing a fourfold semantic similarity in order to obtain greater accuracy. The final paper is “News shocks modeling on monetary policies using dynamic stochastic general equilibrium (DSGE) model: case analysis which aims to investigate the effects of news shocks on monetary policies using the dynamic stochastic general equilibrium (DSGE) model.

This special issue focused on the selection of high-quality papers in the fields related to capsule networks and autonomous systems. The six selected papers addressed the various issues related to the deep learning mechanism in capsule networks and their deployment helps to solve the emerging issues in autonomous systems.

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