

## **An overview of deep learning techniques in echocardiography image segmentation**

### **ABSTRACT**

Machine Learning (ML) has been a remarkable success in the last few years, Sequential - Decision Making tasks are a main topic in ML, these are tasks based on deciding, the sequence of actions from experience carry out in an environment that is uncertain to achieve goals. these tasks cover so many ranges of applications such as healthcare, robotic, finance and many more. The design and extracting of features in ML were done based on defining (hand-crafting features), which is a weak point for this model. Due to ML problem as well as advances in computer hardware Machine Deep Learning (DL) has entered the field of image processing. In fact, DL is a type of Function approximator. To solve ML tasks Function approximator is required and this idea is core of ML. There are many type of Function approximator such as, linear models, gaussian process, support vector machine and decision tree. In this paper, considering the importance of segmenting in medical images, we will review works that have utilized DL methods, as well as our focus is based on Echocardiography Image Segmentation.

**Keyword:** Machine learning; Deep learning; Medical image segmentation; Echocardiography