**Abstract**

**Cancer is a human killer disease with the biggest case in the world. According to statistical data by the International Agency for Research on Cancer (IARC) in 2018, cancer has become the leading cause of death for 9.6 million people from all over the world. The problem is that many underdeveloped countries and even developing countries are not ready to handle cancer problems properly so that a large number of cancer patients do not have access to quality diagnosis and treatment on time. Microarray technology is one way to obtain information contained in Deo molecular circuits. Deoxyribonucleic acid (DNA) living things. But the complexity of the data on the microarray causes problems with the high computational processes that occur. In this study, an embedded approach was used by combining Binary Particle Swarm Optimization (BPSO) and Support Vector Machine. BPSO method plays a role in finding features that play a significant role in the classification process so that the classification process with SVM can take place more quickly with better accuracy. The classification result on Colon Tumor reached the highest value of 74.44%, in the Leukemia data 72.41%, and in the Lung Cancer data, the accuracy reached 100%.**