

## ABSTRACT

**Arya Perdana. 2017. IMPLEMENTATION OF SUPPORT VECTOR MACHINE (SVM) ALGORITHM OF CLASSIFICATION OF SCHIZOPHRENIA, Thesis of Informatics Study Program, Faculty of Computer Science, Brawijaya University, Malang. Advisor: Muhammad Tanzil Furqon, S.Kom, M.CompSc and Indriati, S.T, M.Kom.**

*Schizophrenia is a disease that attacks a person's psyche, and resulting in behavior with an inappropriate mindset. One of the causes of a person suffering from schizophrenia is stress and also has severe life pressures from various aspects of life. Support Vector Machine (SVM) is an algorithm that can classify types of schizophrenia. The data used in this research is as much as 11 data which is divided into 5 classes. Classes in this study represent five types of diseases in schizophrenia are paranoid, hebefrenik, catatonic, undifferentiated, and simplex. Basically SVM algorithm is a method of linear classification, so that a kernel is used to overcome nonlinear data. In this research is also used One Against All concept to solve multiclass problem. The end result of this research resulted in the highest accuracy of 50.09%, with constant value  $\lambda = 1$ ;  $C = 0,1$ ;  $\gamma = 0.1$ ;  $itermax = 100$ ;  $\epsilon = 0.01$ ; and also uses polynomial kernels. Tests in this study using K-Fold Cross Validation test, using 11 fold.*

**Keywords:** Schizophrenia, Support Vector Machine, One Against All