

Abstract

Conjugate Gradient is one of optimization method that minimize a function, where the search directions are constructed by its conjugation and orthogonal values. Because the orthogonal direction, Conjugate Gradient can be convergence to the solution. Conjugate Gradient not only can be used to solve linear function, but also non linear problems, such as Artificial Neural Network training.

In this final project, Conjugate Gradient Polak Ribiere algorithm used in Artificial Neural Network training as air temperature forecasting system. Climatology data that used as input variables are air temperature, humidity, air pressure, rainfall, sunshine radiation, and wind velocity.

From the research, we can interpret that forecasting system of air temperature can produce result of testing more than 90%.

Keywords: Conjugate Gradient Polak Ribiere, air temperature, climatology, Artificial Neural Network training.