ABSTRACT

In the era of digitalization, the agricultural sector is not spared from technological innovations that help farmers, one of which is the existence of Habibi Garden, a startup company in the field of agrotech that helps farmers to take care of their plants. Most of the gardens are managed with tools from Habibi Garden using the scheduling feature, not using the automated features of the existing sensors. So, in order to be more efficient in water use, a weather prediction system is needed, to disable the watering schedule for tomorrow if it is predicted to rain on that day.

Based on this, the authors took the initiative in building a prediction system that uses the neural network algorithm to predict the rain that is expected to fall, and in facilitating access to predictive data by applications, the authors develop this prediction system into a microservice architecture that produces several APIs to make it easier for applications to get predictive data.

In the design, the author uses the Python programming language with the help of library tensorflow, pandas, numpy, and sklearn. Python is also used to create APIs with the help of flask library. In addition to python, the author uses Javascript in creating an API that will be used to format the dataset or test data. The results obtained in this study produce a fairly good accuracy and help farmers in saving water in the future.

Kata Kunci : *Neural Network, Microservice, API,Weather Forecast*