ABSTRACT

In the era of digitalization, the agricultural sector is not spared from technolo-

gical 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

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