Prediction Of Asteroid Hazard Distance Through Earth's Orbit Using K-Neirest Neighbor Method

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Abstract

The National Aeronautics and Space Administration (NASA) is a United States state agency responsible for the space program. The state agency observes space objects including asteroids. Information from www.kaggle.com There are an infinite number of space objects, some of which are closer than we think, although we may think that 70,000 Kilometers are not dangerous to us, but on an astronomical scale it is a very small and disturbing distance. natural phenomena and including dangerous. Judging from the infinite number of objects in outer space that will cross the earth's orbit, predictions are needed to determine the level of danger or harm when crossing the earth's orbit. Prediction is an activity that can know or predict what will happen in the future which aims to find out the approximate asteroids that will cross the earth in the future. In this study, data mining classification techniques and the K-Nearest Neighbor algorithm are used to make a prediction system for the threat of asteroids when they cross the earth. Classification is the task of mining data into groups of data by classifying data items into predefined class labels, building a classification model from the data set, building a model that is used to predict future data. To determine the distance of the asteroid threat across the earth, data mining classification techniques and the K-Nearest Neighbor algorithm are used. The data that will be used is 3,500 data sourced from NASA, the data will be processed using the K-Nearest

Neighbor algorithm. The results obtained are 57.71% accuracy, 54.89% precision, 81.42% recall, and 47.45% misclassification rate.

Keywords
Data Mining, Classification, K-Nearest Neighbor, Nasa, Asteroids, Prediction

Biographies
Syahrul Firdaus is a final year undergraduate student in the department of informatics, University Jenderal Achmad Yani, Cimahi, Indonesia. Her primary interests are Data Mining, Systems Analysis, and software engineering.

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Melina is an Associate Lecturer. He holds a master's in informatics. Among the researchers' interests is IoT-based Disaster management: a case of technological mitigation in Indonesia, the effect of LED light radiation on photosynthesis process using ingenhousz experiment.

Asep Id Hadiana received his master's degree in Enterprise Information System from Indonesian Computer Univerity and a Doctor of Philosophy from Universiti Technical of Malaysia Melaka (UTem). He is a lecturer in the Informatics Department, Faculty of Science and Informatics, Universitas Jenderal Achmad Yani. Amongst his research interest are Cyber Security, Data Mining, Spatial Analysis, Location Based Services and Geographic Information Systems.