

**Penerapan Algoritma *Modified K-Nearest Neighbour (MKNN)* Pada
Klasifikasi Masa Studi Mahasiswa Teknik Informatika**

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ABSTRAK

Mahasiswa dapat diartikan sebagai seseorang yang sedang dalam proses menimba ilmu dan sedang menjalani pendidikan pada salah satu bentuk perguruan tinggi, yang terdiri dari akademik, politeknik, sekolah tinggi, institut dan universitas. Program Sarjana (S1) merupakan jenjang pertama program akademik yang mempunyai beban studi 144 sampai 160 SKS, dijadwalkan sekurang-kurangnya 8 semester dan selama-lamanya 14 semester. Data yang digunakan yaitu data IPS (Indeks Prestasi Semester) dari semester 1 sampai semester 6 yang akan dijadikan dasar perhitungan prediksi dengan harapan dapat menemukan informasi mahasiswa yang terindikasi lulus tepat waktu dan tidak tepat waktu. Model algoritma yang digunakan untuk mendukung prediksi masa studi mahasiswa adalah algoritma Modified K-Nearest Neighbor. Tujuan dari penelitian ini untuk mengetahui dan mengukur tingkat akurasi, presisi dan *recall* pada metode *Modified K-Nearest Neighbor*. Klasifikasi Masa Studi Mahasiswa Teknik Informatika menggunakan metode *Modified K-Nearest Neighbour* dengan data yang digunakan diambil dari UPT Pusat Data dan Informasi Universitas Muhammadiyah Jember, dengan jumlah data 260 data dan 2 kelas *output*. Berdasarkan hasil pengujian yang telah dilakukan didapatkan hasil akurasi tertinggi sebesar 84,62%, hasil presisi tertinggi sebesar 100%, dan hasil *recall* tertinggi sebesar 75% pada $K = 3$.

Kata Kunci : Mahasiswa, Indeks Prestasi Semester, Metode *Modified K-Nearest Neighbor*.

***Application of the Modified K-Nearest Neighbour (MKNN) Algorithm
In the Classification of the Study Period of Informatics Engineering Student***

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ABSTRACT

A student can be defined as someone who is in the process of gaining knowledge and is undergoing education at one form of higher education, which consists of academics, polytechnics, high schools, institutes and universities. The Undergraduate Program (S1) is the first level of an academic program that has a study load of 144 to 160 credits, is scheduled for at least 8 semesters and a maximum of 14 semesters. The data used is IPS (Semester Achievement Indeks) data form semester 1 to semester 6 which will be used as the basis for calculating predictions in the hope of finding information on students who are indicated to have graduated on time and not on time. The algorithm model used to support the prediction of student study period is the Modified K-Nearest Neighbor algorithm. This research is to determine the study length of students using the Modified K-Nearest Neighbor method. The study purpose was to determine and measure the level of accuracy, precision and recall in the Modified K-Nearest Neighbor method. The study period of classification informatics engineering students uses the Modified K-Nearest Neighbor method with the data used taken from the UPT Data and Information Center, University of Muhammadiyah Jember, with a total of 260 data and 2 output classes. Based on the results of the test which have been done, it was found out that the highest accuracy results were 84,62%, highest precision results were 100% and highest recall results were 75% at K = 3.

Keywords: *Students, Semester Achievement Index, Modified K-Nearest Neighbor Method.*