

**PENERAPAN DATA MINING  
MENGUNAKAN ALGORITMA NAÏVE BAYES  
UNTUK MENGUKUR TINGKAT KETEPATAN KELULUSAN  
TARUNA STIMART AMNI SEMARANG**  
(*DATA MINING IMPLEMENTATION USING NAÏVE BAYES ALGORITHM  
FOR MEASURING GRADUATION EXACT TIME OF THE  
STUDENTS OF STIMART AMNI SEMARANG*)

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**ABSTRACT**

*Each student's length of study in university is an important aspect for supporting the learning and teaching program. Besides that, it becomes a comparison in the accomplishment of study program performance. Based on the students' academic data, there are still many students which cannot complete their study year on time every year. Those problems become the institution's responsible in monitoring their students' academic performance. Based on this problem, there is a need tendency of using a system, which can measure graduation exact time of students. It can be useful as a material for evaluating students' academic performance. By using data mining technology, more focused on the classification with algorithm Naïve Bayes, the researcher could do a measurement of the students' graduation time based on their curriculum vitae data (main data) and their academic transcript data. This research uses Waterfall Model of System Development Life Cycle (SDLC) as a software development methodology which is divided into 4 steps: system analysis by applying Knowledge Discovery in Database (KDD) steps, system design using Unified Modeling Language (UML), coding using the PHP programming language, and testing. The accurate evaluation data were resulted by comparing the exact graduation data and the result of graduation data classification using Naïve Bayes Algorithm for 2012 Bachelor College Class of Transport Management, which was resulted 78%. Hopefully in the future this research can be applied using other algorithms, such as C4.5 algorithm.*

*Key words: Data Mining, Naïve Bayes Algorithm, Students Graduation, System Development Life Cycle*

**ABSTRAK**

Lama masa studi mahasiswa dalam suatu perguruan tinggi merupakan aspek penting dalam keberlangsungan kegiatan belajar mengajar, serta menjadi tolak ukur keberhasilan penyelenggaraan program studi. Dilihat dari data akademik mahasiswa, setiap tahunnya masih terdapat mahasiswa yang tidak dapat lulus tepat waktu. Berdasarkan hal tersebut maka diperlukan suatu sistem yang dapat mengukur tingkat ketepatan kelulusan sehingga dapat berguna sebagai bahan evaluasi kinerja akademik mahasiswa. Dengan menggunakan teknik data mining khususnya klasifikasi dengan algoritma *Naïve Bayes* dapat dilakukan pengukuran ketepatan waktu kelulusan mahasiswa berdasarkan data induk dan data akademik. Penelitian ini menggunakan *System Development Life Cycle* (SDLC) Model *Waterfall* sebagai metode pengembangan perangkat lunak yang terbagi dalam 4 tahap, yaitu analisis sistem dengan menerapkan langkah-langkah *Knowledge Discovery in Database* (KDD), perancangan sistem menggunakan *Unified Modelling Language* (UML), pengodean menggunakan bahasa pemrograman PHP, dan pengujian. Hasil evaluasi keakuratan data dengan membandingkan data kelulusan sebenarnya dan data kelulusan hasil perhitungan klasifikasi dengan algoritma *Naïve Bayes* untuk angkatan 2012 S1 Manajemen Transpor adalah 78%. Diharapkan ke depan penelitian ini dapat diterapkan menggunakan algoritma yang lain, seperti algoritma C4.5.

Kata kunci : Data Mining, Algoritma Naïve Bayes, Kelulusan Mahasiswa, *System Development Life Cycle*