

ABSTRAK

**Implementasi Algoritma *Support Vector Machine* (SVM) Untuk Klasifikasi Kelayakan SNBP Berbasis *Website* di SMA Pusri Palembang
(2026:XIII + 80 halaman + 35 gambar + 4 tabel + 10 lampiran)**

GHEFIRA FARIAH

062240352257

JURUSAN TEKNIK ELEKTRO

PROGRAM STUDI SARJANA TERAPAN TEKNIK TELEKOMUNIKASI

POLITEKNIK NEGERI SRIWIJAYA

Proses penentuan siswa *eligible* Seleksi Nasional Berdasarkan Prestasi (SNBP) di SMA Pusri Palembang masih dilakukan secara manual sehingga kurang efisien dan berpotensi menimbulkan subjektivitas. Penelitian ini bertujuan mengembangkan sistem informasi akademik berbasis website yang mampu mengklasifikasikan kelayakan siswa mengikuti SNBP perguruan tinggi menggunakan algoritma *Support Vector Machine* (SVM). Dataset yang digunakan terdiri dari 764 data akademik siswa dan alumni SMA Pusri Palembang. Model dikembangkan melalui tahapan *preprocessing*, normalisasi data menggunakan *StandardScaler*, pelatihan SVM dengan kernel *Radial Basis Function* (RBF), serta evaluasi menggunakan *confusion matrix*. Hasil pengujian menunjukkan model klasifikasi kelayakan SNBP memperoleh *accuracy* sebesar 98,69%. Pengujian menggunakan metode *Blackbox Testing* menunjukkan seluruh fitur website berjalan sesuai dengan fungsinya. Sistem yang dikembangkan mampu membantu sekolah dalam menentukan kelayakan siswa mengikuti SNBP secara lebih objektif berdasarkan data akademik siswa.

Kata kunci: *Support Vector Machine* (SVM), SNBP, klasifikasi, *machine learning*, sistem berbasis web.

ABSTRACT

Implementation of the Support Vector Machine (SVM) Algorithm for Website Based SNBP Eligibility Classification at SMA Pusri Palembang
(2026:XIII + 80 pages + 35 pictures + 4 tabble + 10 notes)

GHEFIRA FARIAH

062240352257

ELECTRICAL ENGINEERING DEPARTEMENT

PROGRAM OF STUDY IN APPLIED BACHELOR DEGREE OF

TELECOMMUNICATION ENGINEERING

STATE POLYTECHNIC OF SRIWIJAYA

The process of determining students eligible for the National Selection Based on Achievement (SNBP) at SMA Pusri Palembang is still carried out manually, making it less efficient and potentially subjective. This study aims to develop a web-based academic information system capable of classifying student eligibility for SNBP using the Support Vector Machine (SVM) algorithm. The dataset consisted of 764 academic records of students and alumni from SMA Pusri Palembang. The model was developed through data preprocessing, normalization using StandardScaler, SVM training with the Radial Basis Function (RBF) kernel, and evaluation using a confusion matrix. The eligibility classification model achieved an accuracy of 98.69%. Blackbox Testing showed that all website features functioned properly. The developed system can assist schools in determining SNBP eligibility objectively based on students' academic performance.

Keywords: *Support Vector Machine (SVM), SNBP, classification, academic information system, website.*