LEMBAR HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW* KARYA ILMIAH : PROSIDING

Judul Karya Ilmiah (Artikel)	:	Eff sed	ect of change of channe imentation in Mrica Rese	l wi rvo	dth in the downstream of the check dam on controlling
Jumlah Penulis	:	4 o	rang (D Ulfiana, D A W u	ılan	dari, P N Parmantoro and Susilowati)
Status Pengusul	:	per	ulis ke-2		
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The increasing sedimentation of Mrica reservoir shows that the sedimentation control has not been effective. The sedimentation control has been made include the disposal of sediments that settle in the reservoir by dredging or flushing. However, the results are not optimal. This is caused by the large volume of sediment entering the reservoir each year. The controlling volume of sediment that goes into the reservoir has also been carried out by conducting a watershed conservation program and building a check dam in the upstream Mrica reservoir. However, the existing check dam is still less effective in controlling sediments, especially suspended load sediments, that are transported in the river. Therefore this study was carried out by adopting the

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Application of nanopowders in industrial production of mixed feed

M Chkalova^{1,*}, V Shahov¹, V Pavlidis¹, S Solovyov²

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Abstract. One of the main directions of the feed manufacturing industry development is the improvement of the output product quality that ensures its efficacy in modern agricultural production. Some international experience in using the essential microelements in the form of nanopowders in the diets of farm animals has been gained. The article is devoted to the development and justification of a technical solution to the problem of dispensing ultrafine (nano) powders in the industrial production of combined feeds. The authors carried out theoretical and experimental studies of the influence of the conditions of functioning of industrial-technological equipment on the properties of several nanopowders of micro metals. The parametric model of the proposed pneumatic dispenser of bulk nanomaterials allows taking into account various structural and technological changes in the dosing process during the preparation of feed mixtures. The author presents a methodology for calculating the oscillatory system of a pneumatic dispenser, including an annular membrane with fixed edges, based on the equivalent replacement of a system with distributed parameters (membrane) with a system with lumped parameters, which allows replacing the oscillatory model with a translational motion model. An engineering-mathematical model that describes forced membrane oscillations, the dispenser oscillation system and the behaviour of the ultrafine material in the working chamber was constructed on its basis. Practical implementation of the results made it possible to obtain a prototype of bulk ultrafine materials dispenser.

1. Introduction

The industrial production of mixed feed is an established industrial sector in the Russian Federation. In modern conditions, the production of mixed feeds is becoming an increasingly important link in the agro-industrial complex [1]. Qualitative and quantitative parameters of livestock production are largely determined by the efficiency of the technological processes of feed production organisation and innovative methods to improve their basic characteristics.

The development of the mixed feed industry and improving combined feeds quality is a prerequisite for the rapid and economically viable livestock production growth, as well as one of the main factors in agricultural production development [1]. The solution to the problem of increasing the efficiency of industrial production of combined feeds is becoming more relevant than ever.

The purpose of the study is to establish the possibilities and conditions for the use of ultrafine materials in a feed production line; development of a technical solution to the problem of dispensing ultrafine powders during feed preparation. To achieve this goal, it is necessary to develop a methodology for experimental studies of the influence of the operating conditions of technological

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Optimization of the compressive strength of hair fiber reinforced concrete using central composite design

F D Santos^{1,*}, M A M Taguba^{1,2}, A R Alzona^{1,2}, R C S Basada¹, J M A Elbit¹, G L Nones¹, K P M Olido¹, E U G Ramos¹

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Abstract. In society today, improper waste disposal brings about numerous problems. One of the most common residual wastes found in the municipal solid waste is human hair. This waste, which is evidently continuing to accumulate in disposal streams poses a threat if not disposed properly. Several studies have been done in the search for possibilities of incorporating hair to construction materials. In this study, the compressive strength of Hair Fiber Reinforced Concrete (HFRC) was studied aiming to find the combination that would vield the optimum compressive strength. A parametric study on the effect of amount of hair (1%, 2% and 3%) as well as length of hair strand (0.5-inch, 1 inch and 1.5 inch) on the compressive strength of HFRC was done. The results of the parametric study were used to find the optimum compressive strength. Utilizing the Central Composite Design (CCD) of Response Surface Methodology (RSM), a mathematical model was produced relating the parameters and the combination of parameters that would yield the maximum compressive strength. Based on the results, the mathematical model obtained a Coefficient of Regression of 0.9807 showing that the probability plot of the residuals fits the regression line. As generated by the mathematical model, a combination of 3.2% amount of hair by volume of concrete and a hair strand length of 0.752 inch will yield an optimum compressive strength of 38.15 MPa.

1. Introduction

One of the most widely used construction materials in the construction industry is concrete due to its high compressive strength, long service life and low cost [1]. However, concrete has low crack resistance and has limited tensile strength. The use of concrete ranges from its utilization in the construction of buildings to its versatility in highway construction particularly in the construction of roadways [2]. Moreover, the development of infrastructures (residential, commercial and industrial) depends on the performance of concrete [3]. Researchers have devoted their time in finding materials which can be added to concrete in order to improve its qualities. Due to the advances of concrete technology, fiber reinforcement was introduced. The reliability of Fiber reinforced concrete has already been established and is widely implemented in various range of applications in the industry. It has also been observed in previous studies that fiber reinforced concrete has a better performance as compared to normal concrete [4].

One of society's major problems at present time is improper waste disposal. Often, inappropriate disposal of refuse (i.e. indiscriminate disposal of litter to streets) leads to clogging of drainages which is one of the culprits of street flooding. In all the residual wastes that are causing problems, human hair is one of the most overlooked. A common constituent found in municipal waste streams in most parts

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Sound Recognition of Four Stroke Manual Transmission **Motorcycle Engine's Damage**

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Abstract. Sound recognition that learns about the source of a sound, which is then used as a reference in learning. Sound recognition referred to in this study is the sound produced from the sound of a motorcycle engine. From the sound of the engine, the sound is then studied more and the results of the recorded sound are then used as objects of research. The management of motorcycle engine sound is carried out using Matlab and assisted by using the HMM (Hidden Markov Model) method with GMM (Gaussian Mixture Model) where HMM is used as chain pattern formation and GMM is used as a sound matching pattern. In this study indeed really learns from every sound of a motorcycle engine that will be used as a sample in the laboratory. From the sound of a motorcycle engine that is heard by the human ear can already indicate the conditions and eligibility limits of the motorcycle. Therefore, from this study trying to find answers to each condition and type of damage from a motorcycle through the sound of a motorcycle engine. With this research, it can help the vehicle owner, because the results of this study warn the vehicle owner to immediately conduct a scale check at the nearest official workshop and from this study also provide benefits and benefits for researchers and motorcycle vehicle owners to find out the condition of the damage early vehicles and help prevent them so as not to cause severe damage which can add air pollution in the city of Dili, East Timor. And the results of existing research are very helpful both for researchers, mechanics and motorcycle vehicle owners.

1. Introduction

In the case of learning being faced that is how to tell or explain to users of motorcycle vehicles to find out the condition of their vehicles. In the automotive world, especially in the current mode of transportation which is becoming popular and much favoured by the people in the City of Dili, East Timor, especially motorcycle vehicles, because of their simple and elegant models and shapes. The motorcycle itself has a classification of engine capacity starting from 50cc (Centimeter Cubic) and there are even more than 1000cc (Centimeter Cubic) with the type of engine there are some that use Two-Stroke and there are Four-Stroke [1], with manual and automatic transmission types that are often found along the city highway of Dili, East Timor [2] - [4]. Why is it necessary to recognize the type of damage to a motorcycle because of the sound of a motorcycle engine we can find out the conditions of eligibility and the type of damage. Because every sound of a motorcycle engine can show the presence status of each engine component or engine part. Therefore, the purpose of this study is to create a system that can recognize signals from the sound of machines that are processed using Matlab and supported by using the Hidden Markov Model (HMM) [5], [6] with the Gaussian Mixture Model (GMM) [7] - [9] and how to analyze system performance in providing accuracy to engine damage according to the symptoms caused by the engine sound signal.

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Feature Selection Using Rough Set Theory Algorithm for Breast Cancer Diagnosis

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Abstract. Feature selection is one of the pre-processing stages of classification carried out by selecting relevant features that affect the results of classification. The advantage of feature selection is that it increases the value of accuracy. Data mining in the medical world has excellent potential for knowing hidden patterns in medical data sets. However, medical data sets often have large dimensions and have irrelevant features that can decrease the performance of the algorithm. This study aims to analyse the performance of the rough set approach as an algorithm used for feature selection in breast cancer diagnosis cases. This study conducted a feature selection process on the Wisconsin Breast Cancer (Diagnostic) Data Set provided by the UCI machine learning repository. There are several steps taken in research to realize these goals, such as data pre-processing, feature selection, data randomization, classification and performance evaluation. The result shows that feature selection using the rough set of methods has proven to be effective in reducing a large number of features in the data set.

1. Introduction

Cancer is a condition which cells have lost control and standard mechanisms so that they experience abnormal growth, fast and uncontrolled. Cancer can begin to grow in the mammary glands, milk ducts, fat tissue, or connective tissue in the breast. The key to surviving breast cancer survivors is to detect breast cancer as early as possible before cancer has a chance to spread. The breast cancer diagnosis method used by a doctor depends on the doctor's knowledge, intuition, and experience. The results of the diagnosis can affect the recommendation to the patients.

As technology advances, especially in the area of artificial intelligence, machine learning techniques are introduced to help improve automatic detection capabilities. With the help of this system, the possibility of misdiagnosis made by experts can be avoided, and medical data can be examined in a short time and more detail. The diagnosis of using computer-aided utilizes many data mining methods. Data mining with intelligent algorithms can be used to overcome diagnostic problems with medical data sets that involve multiple data inputs [1]. Data mining in the medical world has excellent potential for knowing hidden patterns in medical data sets. However, medical data sets often have large dimensions and have irrelevant features that can decrease algorithm performance. Feature selection is a pre-processing stage of classification carried out by selecting relevant features to improve the effectiveness and efficiency of the performance of the classification algorithm [2]. The advantage of feature selection is that it increases the value of accuracy [3].

Research on feature selection has been carried out in various cases. Feature Selection research for breast cancer diagnosis uses a wrapper approach based on genetic algorithm (GA) and case-based reasoning (CBR). GA is used to find the problem space that is aimed to find all possible subsets of features, and CBR is used to estimate the evaluation of the results in each subset. The experimental