



**J**URNAL  
PENELITIAN  
POS dan  
INFORMATIKA

VOL 9 No. 2 December 2019



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**JURNAL PENELITIAN POS DAN INFORMATIKA (JPPI)** JPPI is first issued in 2011, with two editions per year, every September and December. This journal aims to broaden and increase knowledge of and serves as a platform for exchanging ideas for researchers, academics and practitioners, especially in the fields of posts, broadcasting, telecommunications and informatics. Articles published in the journal are those of academic papers, research reports, surveys, research briefing, thesis, secondary data analysis, ideas, theoretical conceptual reviews, and methodological in the field which are original and has never been published in other media..

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## FOREWORD FROM EDITOR-IN-CHIEF

JPPI's Volume 9 the second issue of this year further brings this journal closer to the right track of becoming an international Journal. Following the success of first issue last September which was written fully in English. This issue depicts our strong commitment to become an International Journal, reflected from editor's thorough preparations towards the internationalization of the Journal next year, as mandated by the JPPI workshop in Yogyakarta early November. As our Initial step, 3 international reviewers have been recruited, Leonel Hernandez, of Institución Universitaria ITSA, Colombia, Ukraine; Assoc. Prof. Dr. Roman Voliansky, of Dniprovsky State Technical University, Ukraine and Dr. Abdulrazak Yahya Saleh of Universiti Malaysia Sarawak, Malaysia are here to strengthen JPPI. The next step will be the creation of a research community whose member share specialization in Journal. Such community will be beneficial for acquisition of paper, both in quality and quantity. The hunt for writers is done by targeting writers with international paper qualifications both home and abroad. After strengthening the substance of international indexing standard articles, editor will continue with bidding to Scopus in 2020. In conformity with the Jogja workshop's decision, the Editor directs his target to the Scopus Indexation first, before accrediting it to Sinta 1.

In this edition JPPI returned with 6 high quality articles. Readers will find **Indonesia's Public API** for the first paper, written by Nur Aini Rakhmawati, Sayekti Harits Suryawan, Muhammad Ariful Furqon, Deny Hermansyah. Researchers described that an open API can facilitate Indonesia's users to access data and build application through HTTP protocol. In this paper, 38 open APIs were investigated and classified by using five criteria, namely technology, authentication, scope, source, and approval request. In general, the open APIs in Indonesia employ RESTful as a web service and JSON format as data format. In term of authentication, API key is a common method in most of open APIs. The second paper, written by **Firman Tempola** is entitled **Implemented PSO-NBC and PSO-SVM to Help Determine Status of Volcanoes**. This paper describes and shows the accuracy of the resulted prediction was only 79.31%, or fell into fair classification. This research compared the optimization of Naive Bayes algorithm to vector machine support using particle swarm optimization. The research found improvement on system after application of PSO-NBC to that of 91.3 % and 92.86% after applying PSO-SVM. The title of third paper is **Electronic Business Licensing in Indonesia** written by **Muhammad Insa Ansari**. The results indicate that the development of regulations on business licensing is inseparable from the development of one-stop integrated licensing. However, the Online Single Submission system has not been implemented in all business licensing, leaving some with the use of offline arrangement. Proper implementation of electronic business licensing at the central government level, the provincial government level, to the regency level has not been achieved.

The fourth paper is entitled **Implementation of Scrum Work Framework in The Development of Quality Assurance Information System**, written by **Mercurius Broto Legowo, Budi Indiarto, and Deden Prayitno**. The purpose of this research is to develop a quality assurance information system by implementing the Scrum Framework. This study presented the quality assurance information system that was produced using the complete Scrum framework. This information system is expected to contribute significantly to ISO-certified higher education in increasing the BAN-PT Accreditation assessment for their study programs. The fifth paper written by **Hartanto Ignatius, Ricky Chandra, Nicholas Bohdan, and Abdi Dharma**. The title is **Comparison Of Convolutional Neural Network Model In Classification Of Diabetic Retinopathy**. The researchers explained machine learning is one

of the methods that can be used to classify Diabetic Retinopathy (DR). In this paper, researchers proposed three methods of DR classification: Simple CNN, Le-Net, and DRnet model. Based on the research, DR classification must use a deep architecture so that the feature of the DR can be recognized. In this DR classification, DRnet achieved better accuracy with an average of 9.4% compared to Simple CNN and Le-Net model. The last paper written by Wisda and Mashud with title **Designing an Application for Analyzing Consumer Spending Patterns Using the Frequent Pattern Growth Algorithm**. The purpose of this study is to develop an application that can analyze consumer spending patterns to increase sales by regulating the layout of goods based on consumer shopping patterns, as well as implementing the Frequent Pattern Growth. Stages of research methods conducted begin with data collection at the study site, system requirements analysis, system design with UML, system testing with the Black Box method.

These are the articles that we can present for this edition. Hopefully our path to internationalize JPPI next year can be carried out well. We invite readers to enjoy the inventions and innovations in this issue

Jakarta, Desember 2019

Editor-in-Chief

Lembar Abstrak  
**Jurnal Penelitian Pos dan Informatika**

Vol. 9 No. 2 Desember 2019

e-ISSN. 2476-9266 p-ISSN. 2088-9402

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**Nur Alni Rakhmawati, Sayekti Harits Suryawan, Muhammad Ariful Furqon, Deny Hermansyah**

**Indonesia's Public API**

**Jurnal Penelitian Pos dan Informatika Vol. 9 No. 2, Page 85 – 96**

**ABSTRACT**

Abstract— Today, Indonesia places the fifth position of the most internet users in the world. Consequently, data transaction through HTTP protocol saw an increase. An open API can facilitate Indonesia's users to access data and build application through HTTP protocol. In this paper, 38 open APIs were investigated and classified by using five criteria, namely technology, authentication, scope, source, and approval request. In general, the open APIs in Indonesia employ RESTful as a web service and JSON format as data format. In term of authentication, API key is a common method in most of open APIs.

**Keywords:** Indonesia, open API, web services

swarm optimization. This research compared the optimization of Naive Bayes algorithm to vector machine support using particle swarm optimization. The research found improvement on system after application of PSO-NBC to that of 91.3 % and 92.86% after applying PSO-SVM.

**Keywords:** Naive Bayes, Support Vector Machine, Particle Swarm Optimization, Volcanoes.

**Muhammad Insa Ansari**

**Electronic Business Licensing in Indonesia**

**Jurnal Penelitian Pos dan Informatika Vol. 9 No. 2, Page 105 – 124**

**ABSTRACT**

This study discusses electronic business licensing in Indonesia, by reviewing and analyzing the development of the regulations on electronic business licensing, electronically integrated business licensing regulations, and electronically integrated business licensing implementation. This research was conducted using normative legal research methods, with primary legal materials, secondary legal materials, and tertiary legal materials. The results of the study indicate that the development of regulations on business licensing is inseparable from the development of one-stop integrated licensing. However, the Online Single Submission system has not been implemented in all business licensing, leaving some with the use of offline arrangement. Proper implementation of electronic business licensing at the central government level, the provincial government level, to the regency level has not been achieved.

**Keywords:** Business Licensing, Online Single Submission, Investment.

**Firman Tempola**

**Implemented PSO-NBC and PSO-SVM to Help Determine Status of Volcanoes**

**Jurnal Penelitian Pos dan Informatika Vol. 9 No. 2, Page 97 – 103**

**ABSTRACT**

This research is a continuation of previous research that applied the Naive Bayes classifier algorithm to predict the status of volcanoes in Indonesia based on seismic factors. There are five attributes used in predicting the status of volcanoes, namely the status of the normal, standby and alerts. The results Showed the accuracy of the resulted prediction was only 79.31%, or fell into fair classification. To overcome these weaknesses and in order to increase accuracy, optimization is done by giving criteria or attribute weights using particle

**Mercurius Broto Legowo, Budi Indiarto, Deden Prayitno**

**Implementation of Scrum Work Framework in The Development of Quality Assurance Information System**

**Jurnal Penelitian Pos dan Informatika Vol. 9 No. 2, Page 125 – 139**

**ABSTRACT**

Quality Assurance Information System Development is required to accelerate accreditation achievement. This Information System application is an integrated model of quality assurance information systems based on the integration of BAN-PT accreditation and ISO 9001: 2008. The purpose of this research is to develop a quality assurance information system by implementing the Scrum Framework. Scrum is one of the popular frameworks in Agile Development Methodology. In this way, the development of productivity increases significantly. In this Applied Research the Action Research approach is used. This Multi-Year Applied Research is the final research of previous studies. The results of this study presented the quality assurance information system that was produced using the complete Scrum framework. This information system is expected to contribute significantly to ISO-certified higher education in increasing the BAN-PT Accreditation assessment for their study programs.

**Keywords :** Accreditation of BAN-PT, Information System, ISO 9001:2008, Quality Assurance, Scrum Framework

**Hartanto Ignatius, Ricky Chandra, Nicholas Bohdan, Abdi Dharma**

**Comparison Of Convolutional Neural Network Model In Classification Of Diabetic Retinopathy**

**Jurnal Penelitian Pos dan Informatika Vol. 9 No. 2, Page 141 – 150**

**ABSTRACT**

Untreated diabetes mellitus will cause complications, and one of the diseases caused by it is Diabetic Retinopathy (DR). Machine learning is one of the methods that can be used to classify DR. Convolutional Neural Network (CNN) is a branch of machine learning that can classify images with reasonable accuracy. The Messidor dataset, which has 1,200 images, is often used as a dataset for the DR classification. Before training the

model, we carried out several data preprocessing, such as labeling, resizing, cropping, separation of the green channel of images, contrast enhancement, and changing image extensions. In this paper, we proposed three methods of DR classification: Simple CNN, Le-Net, and DRnet model. The accuracy of testing of the several models of test data was 46.7%, 51.1%, and 58.3%. Based on the research, we can see that DR classification must use a deep architecture so that the feature of the DR can be recognized. In this DR classification, DRnet achieved better accuracy with an average of 9.4% compared to Simple CNN and Le-Net model.

**Keywords:** Diabetic Retinopathy, Messidor, Deep Learning, Convolutional Neural Network.

**Wisda, Mashud**

**Designing an Application for Analyzing Consumer Spending Patterns Using the Frequent Pattern Growth Algorithm**

**Jurnal Penelitian Pos dan Informatika Vol. 9 No. 2, Page 151 - 159**

**ABSTRACT**

In this modern era, the market has been growing rapidly which can be seen from the navel shopping that is lined up in the hearts of big cities such as supermarkets, grocery stores and others that are provided to meet people's needs for primary goods that are always needed at all times. One of them is Giant Express Tamalanrea, a supermarket in the city of Makassar that serves the sale of household goods and general needs. With the use of customer data analysis to determine the customers' purchasing patterns, Giant Express can optimize the collation of goods. Bringing goods closer at the shelves increases the level of frequency of goods purchased together by customers. Therefore, this study suggests the creation of an application to analyze consumer spending patterns using the frequent pattern growth algorithm method to ensure that the placement of goods is appropriate so that it can increase sales of goods at Giant Express Tamalanrea. The purpose of this study is to develop an application that can analyze consumer spending patterns to increase sales by regulating the layout of goods based on consumer shopping patterns, as well as implementing the Frequent Pattern Growth Algorithm method to determine customer spending patterns to increase sales. Stages of research methods conducted begin with data collection at the study site, system requirements analysis, system design with UML, system testing with the Black Box method.