# *NATURAL LANGUAGE PROCESSING (NLP) INITIATION AND CLASSIFICATION OF CULINARY TOURISM FOR CHATBOT PROGRAMS*

## *(Case Study: Culinary Tourism Information of the Special Region of Yogyakarta)*

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## ABSTRACT

*Nowadays information technology is growing rapidly in various fields, including in the culinary field. Culinary tourism has the potential to increase regional income and become a special concern by the government and the management parties in the field. Yogyakarta has a variety of culinary that is able to attract tourists, but culinary information is not always easily obtained, so it takes a tool that is able to provide information about culinary tourism interactively and quickly like chatbot. Chatbot is a computer program that has the ability to communicate with humans, both through text and audio that collaborates with Natural Language Processing (NLP) in processing natural languages. Chatbot is called "Teman Jajan" and is built from question data obtained from the results of a survey of 476 data. NLP is also applied to the Topic Modeling analysis with the Latent Dirichlet Allocation (LDA) method, the results of which are obtained 3 groups of topics which are often discussed in the survey results questions, such as the word "lokasi" which has a relationship between one topic and another. In the same data, classification analysis was carried out with Support Vector Machine (SVM), the Linear kernel produced the highest accuracy compared to the Polynomial, Sigmoid, and RBF kernels of 80%. Then the data is integrated into the chatbot program, resulting in 70% of the chatbot answering correctly and 30% answering incorrectly from the 10 new questions submitted.*

***Keywords:*** *Culinary, Chatbot, NLP, Topic Modeling, SVM*