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PROF. DR. DERVISH ALIMI
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**4TH INTERNATIONAL
ISTANBUL
SCIENTIFIC
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CONGRESS
PROCEEDINGS BOOK**



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BOOK**

Editors

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All Submissions Have Passed a Double-Blind Referee Evaluation Process

**CULTURAL HERITAGE ANALYSIS WITH OBJECT RECOGNITION METHOD: THE
EXAMPLE OF KONYA**

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ABSTRACT

Cultural heritage is very important in order to today's observe the sociological, economic and technological accumulations of the past societies and to benefit from these savings. Due to this importance, it is a duty of today's society to ensure the best preservation of the cultural heritage, which we will leave to future generations. Process for the protection of cultural heritage is a holistic approach consisting of research, documentation, analysis, diagnosis and determination of the conservation approach. One of the most important stages of conservation studies is the accurate analysis of cultural heritage through reliable documents obtained as a result of extensive research. Efforts to obtain more accurate results in the analysis of cultural heritage have caused different disciplines to work together and develop new techniques to be used in this field. One of the newest techniques used in cultural heritage studies is object recognition methods, the use of which has become widespread in many areas in recent years. The use of object recognition methods allows to obtain more precise, reliable and faster results than traditional methods. An important part of the cultural heritage consists of immovable cultural assets. Especially the houses where societies spend most of their lives is a database that can reflect the characteristics of the period they were built in from various angles. In this study, a residential facade typology algorithm (RFTA) trained by object recognition method, using facade images of 19th and 20th century Konya houses, was created. The facade typology algorithm works as an artificial expert who can predict the style or period in which the houses are built by analyzing the facade characters through the photographs of the houses. In order to test RFTA, photographs of 10 residential buildings in Konya city are presented to the algorithm. According to the results obtained from this study, it is seen that RFTA works with great accuracy without any expert help. This study has been prepared with the aim of providing an innovative basis for future cultural heritage studies.

Keywords: Artificial intelligence, Object Recognition, Deep learning, Convolutional Neural Network, Traditional Residence, Object Detection