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Book of Abstracts

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Edited by Assoc. Prof. Dr. Ayhan EROL
Asist. Prof. Dr. Ahmet YÖNETKEN
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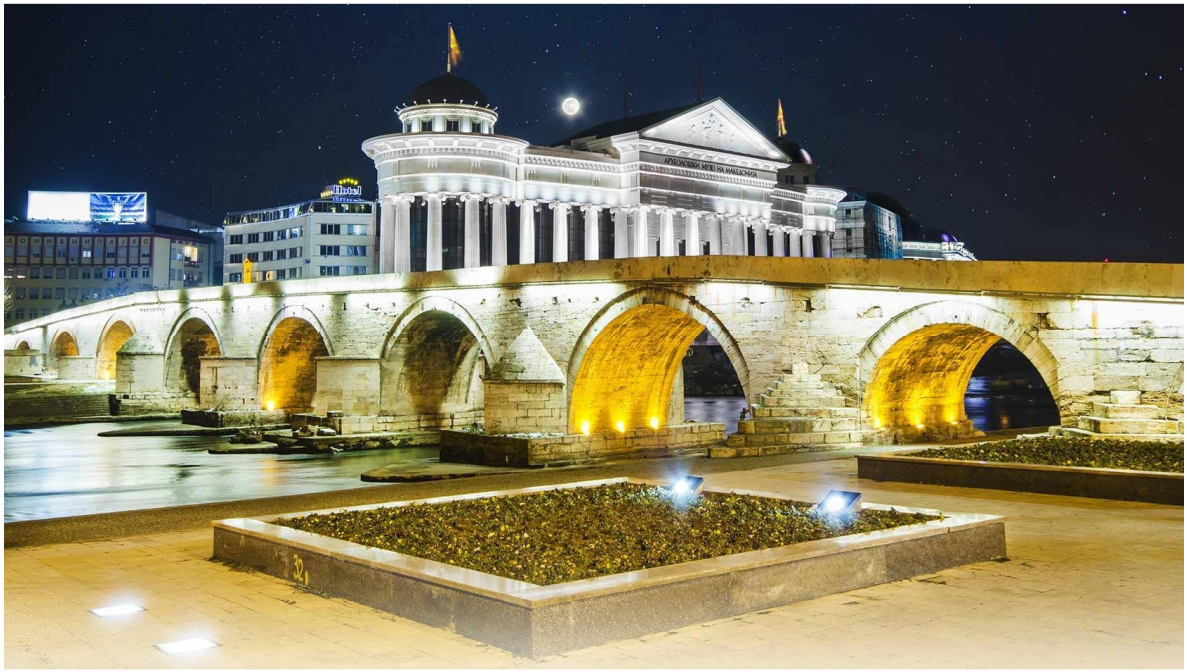

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AN IRRIGATION SYSTEM SUPPORTED BY IOT AND ARTIFICIAL INTELLIGENCE

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Abstract:

Today, along with the depletion of water resources in the world; it is predicted that the need for clean water will increase. Unconscious irrigation in the field of agriculture is rapidly consuming clean water resources. It also reduces the yield in agricultural products. With the effects of global warming, water becomes more valuable.

Along with the development of technology, the Internet of Things (IoT) has begun to spread in all areas. Superior decision-making can be established by the fact that computers are more advanced than humans and open to development. The moisture, temperature and mineral values in the soil can be measured with very small tolerances and it is possible to make inferences accordingly. While it is very difficult for humans to give water as much as needed and when it is needed, it is an activity that computers can do. In this paper, studies were made to combine IoT technology with artificial intelligence. The information gained with the help of microcontrollers and sensors was processed by machine learning and automatic decision making structure was created for future situations.

The gains obtained in this paper are; avoiding unconscious water use in the field of irrigation; to increase production efficiency in irrigation with optimum level of irrigation; to reduce water loss and thus costs in the field of production; to minimize the amount of human power consumed; to prevent mistakes made from human weaknesses; to provide manual control through remote access where it is difficult to physically reach the area to be irrigated.

Keywords: Irrigation, Internet Of Things, Sensor, Machine Learning, Artificial Intelligence

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