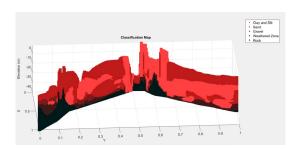
Historical Review of the Geotechnical Data of Saemangeum Sea Dike

Hyeong-Joo Kim¹⁾, *James Vincent Reyes²⁾, Hyeong-Soo Kim³⁾, Tae-Woong Park⁴⁾, Peter Rey Dinoy⁵⁾ Voltaire Anthony Corsino⁶⁾ and Tae-on Kim⁷⁾

ABSTRACT

Over the years, several maintenance efforts have been undertaken to preserve the operational serviceability of the Saemangeum Sea Dike. The current state-of-the-art approaches for sustainable development in complex engineering infrastructures, such as sea dike embankments, leverage artificial intelligence to bridge the gap between known and unknown parameters with non-linear relationships, aiding in predictive analysis based on historical trends. This study presents a historical review of various collected geotechnical data and the application of artificial intelligence to map subsurface conditions, with the goal of optimizing maintenance strategies and enhancing operational efficiency.



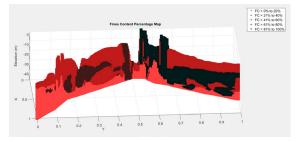


Fig. 1. Contour plot of Saemangeum Sea Dike subsurface properties

REFERENCES

¹⁾ Department of Civil Engineering, Kunsan National University, Gunsan 573-701, Korea ^{2), 3), 6), 7)} Department of Civil and Environmental Engineering, Kunsan National University, Gunsan 573-701, Korea

^{4,5)} Renewable Energy Research Institute, Kunsan National University, Gunsan 573-701, Korea

²⁾ james17@kunsan.ac.kr

¹⁾ Professor

^{2), 6), 7)} Graduate Student

^{3), 4), 5)} Ph.D.

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Choi Y.J., Park B.R., Hyun J.Y., and Moon J.W. "Development of an adaptive artificial neural network model and optimal control algorithm for a data center cyber–physical system." Building and Environment 210 (2022): 108704.

Yan, Zhou, and Yang. "Al and IoT applications of smart buildings and smart environment design, construction and maintenance." Build. Environ 109968 (2022).