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## 4th International Conference on Intelligent Systems and Sustainable Computing : Submission (195) has been created.

1 message

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Thu, Oct 31, 2024 at 6:28 PM

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Hello,

The following submission has been created.

Track Name: ICISSC2024

Paper ID: 195

Paper Title: AI for Healthcare: Improving Classification Models for Screening Osteoarthritis Patients with Voting and Embedded Learning Techniques

**Abstract:**

Illness and disease in seniors are significant concerns and require special care. Therefore, this research aims to improve the classification model of knee osteoarthritis risk in the elderly population of Thailand, evaluate the model's performance using AI technology, and summarize and identify risk factors for osteoarthritis in the elderly population of Thailand. The research was designed to compare two data sources: Thailand's northern and central regions. It consists of 354 samples from eight villages in the Sop Prap Subdistrict, Sop Prap District, Lampang Province, Thailand, and 368 samples from eleven villages in Chaichumphon Subdistrict, Laplae District, Uttaradit Province, Thailand. To improve the prediction of the risk of osteoarthritis in older adults, researchers have developed a more advanced technique that consists of two sections: the ensemble learning models, including XGBoost, LightGBM, Stacking, Bagging, and Voting techniques, and the embedded learning, including Random Forest, Support Vector Machine, Logistic Regression, and Decision Tree. The research found that the model generated by XGBoost and LightGBM techniques had the highest accuracy, with an accuracy of 99.15%. Therefore, it is reasonable to adapt this model into a mobile application and develop it as a strategy for caring for older adults in Thailand.

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Primary Subject Area: AI for Healthcare

Secondary Subject Areas: Not Entered

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Submission Questions Response: Not Entered

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