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5th International Conference on Data Engineering and Communication Technology (ICDECT) : Submission (93) has been created.

1 message

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Tue, Jul 30, 2024 at 9:20 AM

Hello,

The following submission has been created.

Track Name: ICDECT2024

Paper ID: 93

Paper Title: Classification Model for Screening Knee Osteoarthritis Patients in Northern Thailand Using Data Analytics

Abstract:

Thailand faces a continuously increasing number of older adults, which impacts future healthcare arrangements for older people. This research aims to achieve three objectives: to study the context and risks of knee osteoarthritis based on Thai people's lifestyle and food consumption in the northern region of Thailand, to construct the classification model for screening knee osteoarthritis patients in northern Thailand using data analytics, and to evaluate the classification model for screening knee osteoarthritis patients in northern Thailand using data analytics. The dataset is a sample of 360 people from eight villages in the Sop Prap Subdistrict, Sop Prap District, Lampang Province, Northern Thailand. The research tools are classified into two main areas: descriptive statistical analysis and data mining analysis, which has eight techniques: Naïve Bayes, Decision Tree, Generalized Linear Model, Logistic Regression, Deep Learning, Random Forest, Gradient Boosted Trees, and Support Vector Machine. Model performance testing uses cross-validation techniques and confusion matrix performance, which has three indicators: accuracy, precision, and recall. The results showed that the majority of patients with osteoarthritis were female, aged 51 years and over, and whose main occupation was agriculture. In addition, the sample group also has significant awareness of health care and food consumption control. At the same time, the overall developed model had high accuracy values for all techniques, with the GBT technique having the highest accuracy value of 0.827 and S.D. equal to 0.24. Therefore, the results of this research are a report on the context of care and self-protection of the elderly in the area. This mathematical model can be applied in planning care for the Thai elderly society in the future.

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Secondary Subject Areas: Not Entered

Submission Files: [ICDECT_2024@icdect.com](#) (03) - 1stDraft [2024-07-29].pdf (226 Kb, Tue, 30 Jul 2024 02:17:28 GMT)

Submission Questions Response: Not Entered

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