IX Edición Premio

FRANCISCA DE ACULODI

Reunido el Jurado de la IX Edición del Premio FRANCISCA DE ACULODI a la inclusión de la perspectiva de género en los trabajos de fin de Grado de la UPV/EHU —Curso 2021/2022— Rama del conocimiento: Ingeniería y Arquitectura y analizados los 2 trabajos presentados, el jurado ha decidido dar el siguiente premio:

En euskera:

DESIERTO

En castellano u otro idioma:

ANALYSIS OF THE INFLUENCE OF SEX IN DIAGNOSTIC CLASSIFICATION OF PARKINSON'S DISEASE BASED ON NON-MOTOR MANIFESTATIONS BY MEANS OF MACHINE LEARNING METHODS

En cumplimiento del punto 3 de la convocatoria

"El Jurado hará público el resultado de la convocatoria antes del 17 de febrero de 2023 en la página web https://www.ehu.eus/es/web/berdintasuna-direccionparalaigualdad/-/francisca-de-aculodi-ix-edizioa. Se incluirán estos datos: nombre de la persona ganadora, nombre de la tutora o tutor, Grado y Centro al que pertenece y título y resumen del trabajo o trabajos ganadores"

Ganador al trabajo en castellano u otro idioma:

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ANALYSIS OF THE INFLUENCE OF SEX IN DIAGNOSTIC CLASSIFICATION OF PARKINSON'S DISEASE BASED ON NON-MOTOR MANIFESTATIONS BY MEANS OF MACHINE LEARNING METHODS

RESUMEN:

Parkinson s disease (PD) is the second most common neurodegenerative disorder, after Alzheimer's disease. In the early stages of the disease, when motor symptoms have not yet manifested themselves, the accuracy of making a correct diagnosis is currently very limited. This work aims to analyze the influence of sex in diagnostic classification of Parkinson's disease based on non-motor symptoms by using machine learning methods. These symptoms have been evaluated in 490 subjects with PD and 197 healthy control subjects. The machine learning methods that have been used are Support Vector Machine (SVM), Multilayer Perceptron (MLP) and Extreme Gradient Boost (XGB). The impact has been evaluated using different metrics and the main analysis has been carried out using PPMI database. One of the main tasks of this project is to analyze the importance of the features.

This has been done using SHAP and XGBoost tools. The results show that both tools agree on the most important selected variables. However, sex does not seem to be a determining factor in classifying between PD and Healthy Control (HC). Referring to the classification of sex, it seems that sex cannot be reliably classified according to the data obtained and the tests carried out. This conclusion has much to do with the fact that sex does not appear to be an important attribute in classifying PD/HC. As a general conclusion, with these data and the methods used, for early Parkinson's patients the non-motor symptoms do not change according to sex.