Trabajo final - Inglés 3

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High school dropout prediction in Tierra del Fuego

This project explores a machine learning model developed to predict school dropout in secondary education in Tierra del Fuego, Argentina. The dataset, which was built from various public sources, includes indicators such as repetition rate, over-age rate, effective promotion, and enrolment figures. These features were preprocessed, merged, and used to train and test a Random Forest classifier that identifies patterns associated with higher dropout risk. The final dataset contains both numerical and categorical variables, and a binary target variable was created to signal dropout probability. While the model must still be validated with larger samples, its current performance suggests that predictive analytics can be a valuable tool in education. The data was collected and processed using Python libraries, and visualizations were created to assist in interpreting the results.

In conclusion, the model shows potential to support early intervention policies and inform preventive strategies in education, and it should be further improved with additional data and testing. These findings highlight the usefulness of machine learning in identifying at-risk students, allowing for proactive educational policy planning.