Problem statement

BrightPath academy is a high school that is committed to the academic excellence and holistic development of its students. BrightPath academy wants to help their student succeed but are currently facing numerous issues such as they are identifying at-risk students too late, teachers do not have sufficient personalised tools for struggling students, they are unsure whether extracurricular activities help or harm academic performance and there is plentiful data, but no way to easily use it to assist in making helpful decisions.

To address the issues mentioned, this project aims to develop a machine learning model that will be capable of predicting a student’s academic performance and categorise it into grade categories based on various features like study time, tutoring, and parental support. This will be made possible by making use of algorithms such as Logistic Regression, Random Forest, XGBoost and Deep Learning (e.g., neural networks). The model will allow BrightPath academy to identify which students require intervention earlier, enable them to create tailored support strategies and give them an improved understanding of the factors that contribute towards a student success.