**Predicting Student Academic Performance with Machine Learning**

Education is a major force behind sustainable development. In order to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all," the United Nations Sustainable Development Goal 4 (SDG 4) was established. Many students still lag behind despite advancements because of personal, social, or academic difficulties. However, these problems are frequently overlooked until it is too late to offer helpful assistance.  
By employing machine learning to detect students who are at danger of academic failure early enough for effective assistance, our approach offers a proactive option. We want to equip students with the means to deliver timely, individualized support by leveraging the power of data.

**Problem Statement**  
Traditional educational institutions use reactive approaches, which monitors students only after they have fallen short of performance criteria. Reduced motivation, increased dropout rates, and greater disparities in learning outcomes can all be consequences of this delay. Major challenges include: Absence of tailored academic assistance, growing disparities in student achievement

**The Solution**

The results showed a clear relationship: students who have stronger reading skills tend to do better in math as well. While the predictions weren’t perfect, the model was able to estimate math scores with a good degree of accuracy based only on reading performance.

**Impact and Alignment with SDG 4**

Improving reading ability alone could lead to better math outcomes for many students.

Targeting both reading and math support together could be even more effective.

This insight is important because it suggests that improving basic literacy can also lift numeracy skills. That means:

Schools can help students perform better in math by strengthening reading programs.

Educators and policymakers can design combined literacy and numeracy interventions to boost learning outcomes more efficiently.

Supporting reading early on may help close learning gaps before they grow wider.

In short, improving reading skills doesn't just help students understand books—it can also improve how they think, solve problems, and succeed across subjects. This contributes directly to the goal of inclusive, equitable, and quality education for all.