**learning through reflection on doing**

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1. **Project Idea:**

The dropout of school rates in African countries are high. Students leave school early for many reasons, but mainly because of poverty. This can be done by allowing students to work in part-time or voluntary jobs based on their education level. Despite the skills they will learn by joining an organization, they will get benefited from a service that would be provided by this organization (e.g.: a meal for week for the students and their families, clothes, or even a coupon to be used for medication in a certain hospital).

Organizations within the community will train students and their skills will be sharpened during this process which make it easier for them to get suitable jobs after graduation.

In addition, Early childhood and youth care and education services help build skills at a time when children and young people's brains are developing, with long-term benefits for students from disadvantaged backgrounds.

The idea of this project is to encourage and motivate students to continue their education by dealing with the poverty issue, by building a platform that manages, distributes, tracks student performance, and predicts early education dropout rates.

1. **Relevance to Sustainable Development Goals (SDGs):**

Education is both a goal in itself and a means to achieve all the other SDGs. It is not only an integral part of sustainable development, but also a key enabler of it. This is why education is a key strategy in the pursuit of the other SDGs.

1. **Literature Examples:**

*Scientific approach needed to make education more effective - New African Magazine*. (n.d.). Retrieved May 9, 2024, from <https://newafricanmagazine.com/30269/>

*Increasing Access to Education in Developing Countries*. (n.d.). Retrieved May 10, 2024, from <https://insights.grcglobalgroup.com/increasing-access-to-education-in-developing-countries/>.

Liu, L. T., Wang, S., Britton, T., & Abebe, R. (2023). Reimagining the machine learning life cycle to improve educational outcomes of students. Proceedings of the National Academy of Sciences of the United States of America, 120(9), e2204781120. <https://doi.org/10.1073/PNAS.2204781120/SUPPL_FILE/PNAS.2204781120.SD05.XLSX>

Iyer, K., Data Scientist KrishnaIyer, C., Sarchami, A., & Engineer AliSarchami, D. (2017). Early Warning System for At-Risk High School Students NASCIO Award Category Data Management, Analytics & Visualization State of Illinois.

1. **Describe Your Data:**

Some examples of data sources:

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| --- | --- | --- |
|  | **Dataset** | **Source** |
| 1 | Predict students' dropout and academic success | From: <https://www.kaggle.com/datasets/thedevastator/higher-education-predictors-of-student-retention/data> |
| 2 | Students' Employability Dataset - Philippines | From:<https://www.kaggle.com/datasets/anashamoutni/students-employability-dataset/data> |
| 3 | Student Dropout Analysis for School Education | From:<https://www.kaggle.com/code/jeevabharathis/student-dropout-analysis-for-school-education> |
| 4 | New York City Job Dataset | From:<https://www.kaggle.com/datasets/anoopjohny/new-york-city-job-dataset> |
|  | World Inequality Database on Education | From: <https://www.education-inequalities.org/> |

1. **Approach (Machine Learning or Deep Learning):**

Our model will work on this data to predict how likely the students will get a job after graduation or after completion of a certain education level. It also will classify students based on their skills using clustering to know the similarities between each group of students. We will use a mix of learning algorithms to get the maximum benefit of the data that we are working on.