The Artificial Intelligence in Education Project

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Each and every one of you has undoubtedly had experiences with education at some point in your life. Whether as a student who learned, maybe an educator who taught, or perhaps you have been a parent witnessing your child navigate the current school system, you are part of the conversation about how Artificial Intelligence might change education. I'm sure you've all heard of Artificial Intelligence, or AI, as generative AI, such as ChatGPT and DALL-E 2, have recently been skyrocketing in popularity, and though generative AI has potential it is not a type of Artificial Intelligence I will be discussing today, as it does not apply to the matter.

With that out of the way, let's get into how Artificial Intelligence can be applied in Education and what that would yield. Our plan for The AI in the Service of Education Project will consist of two phases.

The first phase will be the data collection phase which will last from early September of the given year into June of the next year. This phase will involve gathering data on the teaching methods of teachers, the student's progress, as well as individual feedback from both parties on how they think they best teach and learn; This data will be amassed from at least 1150 American schools (approximately 1% of all schools in the United States) with at least 20 schools in each US state, meaning that for a state with a low population such as Alaska, there is a higher minimum percentage, for instance, 3.9%, which is to say 20 out of the 512 schools in Alaska.[1] Furthermore, the aforementioned individual feedback from students and teachers will feature queries on not just the effectiveness of their teaching and learning but also their experience and happiness at school, on which specific structures (rules, projects, assessments, etc.) benefit them, and why they responded the way they did, the last one of which will make it easier to scan for any potential bias, especially from teachers. All data will, of course, be collected into the same server in which the AI will reside, with some data, namely the individual feedback will, be sent to this server automatically, while other information, such as the grades and material, will be sent by the schools into said server.
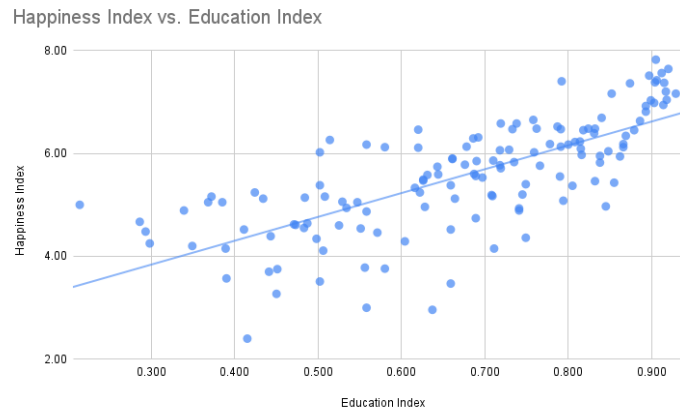
The second phase will be the development phase which will begin shortly after the end of the first phase. This phase will involve training the Artificial Intelligence for cause & effect pattern-recognition, deep learning, and approximate theory of mind algorithms; These specific algorithms will ensure that the AI will be able to understand and associate specific structures and such with negative or positive behaviors and progress, without confusing correlation with causation. The training of the AI models will, of course, be accomplished utilizing the data collected in phase one of the project. Depending on the specific training algorithms used, the efficiency and processing power of the GPUs used, and the overall financial resources of the project, the training would take from 40 days to 2 years to train the model for the AI, considering an estimate of 1.03 billion data-points across all variables. In simpler terms, once the model is trained, it can tell us if this is equal to that, but only if the third element is valid. Naturally, its
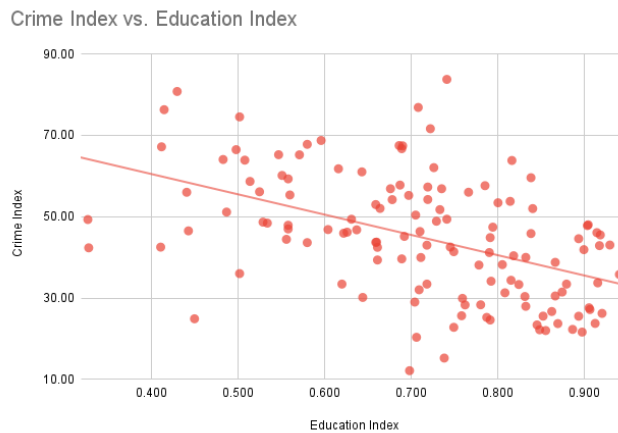
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[1] Staff, WeAreTeachers. 2023. "How Many Schools Are in the U.S.? (and More Interesting School Statistics)." We Are Teachers. January 5, 2023. https://www.weareteachers.com/how-many-schools-are-in-the-us.

patterns would be much more complex than x+y=4, but if x=7, then x+y=8, that was only an example to illustrate its general abilities on a small scale; The actual AI model would know the relationships between behaviors, structures, progress, with higher or lower average results. The model will be able to understand everything as an interconnected web of behaviors, to understand how tugging one string changes the effects of all the others. It will revolutionize the systems of education to skyrocket the efficiency, satisfaction, intelligence, and happiness of students and teachers alike.

After the two phases are over, we will implement this AI as a guide for changing the systems we have in place today. If this AI would be followed to the fullest reasonable extent, we could expect the following results: A much higher average GPA for high for students aged 13-18, lower teen suicide rates, a happier student population, and a more advanced and useful curriculum in comparison with the current one and ones in other countries, and overall education quality will be raised to new record-breaking heights. This, through education, could change many future lives for the better, giving young people a better starting point for the journey that is their life.

Happiness Index vs. Education Index

[2,3]

Crime Index vs. Education Index

[2,4]

[2] Rankedex. n.d. Education Index by Country. Accessed July 22, 2023.
https://rankedex.com/society-rankings/education-index.
[3] Wisevoter. 2023. Happiest Countries in the World 2023. Accessed July 21, 2023.
https://wisevoter.com/country-rankings/happiest-countries-in-the-world.
[4] World Population Review. 2023. Crime Rate by Country 2023. Accessed July 22, 2023.
https://worldpopulationreview.com/country-rankings/crime-rate-by-country.

However, for this dream to become a reality some things will need to occur, a budget to fulfill, and organizations to involve. Organizations and people such as The State Departments of Education, Governors, Mayors, Congressmen, and Senators responsible for education, and the U.S. Department of Education, the involvement of these organizations and individuals will be necessary to carry out this plan as intended. There exist several ways to gain the attention, if not approval, of these institutions. First and foremost, there are petitions that, if signed by enough people, can alert the government of an issue and or a solution. Secondly, another way is advertising, by informing and influencing the public the government can feel pressured to do something. Lastly, companies, research groups, and others can contact government officials themselves and express the need for improvement. However, even with all these methods applied, it still might be challenging to obtain help from these institutions.

I want you to remember this, if we manage to obtain the necessary help from government institutions to begin this plan, collect the necessary data from over a thousand or more schools in The United States, use this data to train an Artificial Intelligence model, and implement this AI model by following the guides it sets to the fullest reasonable extent, then we will raise our education quality to a new high, and everyone, students, teachers, and others alike will benefit greatly.