TRANSFORM YOUR DIGITAL LEARNING EXPERIENCES WITH CLOUD AI

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Content

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IMPACT OF COVID-19 ON EDUCATIONAL INSTITUTIONS

With the ongoing crisis generated by the Covid-19 outbreak, schools, universities and all other educational institutions all around the world had to switch from on-campus classes to online classes within a short period of time.

Universities within a matter of days had to address the following problems:

- **Short-term:** Challenges originated from shelter-in-place policies, campus closures, and shifting to online learning.
- **Medium-term:** Disrupted admission processes and on-campus recruiting efforts.

- **Long-term:** Overall value demonstration of on-campus learning in conjunction with digital/distance or off-campus learning.

Students also who are transitioning from on-campus to digital learning have various challenges to ensure they are staying engaged with new class formats and learning mechanisms. Teacher, on the other hand, are finding it difficult to measure student performance in a completely digital ecosystem where it is harder to assess, gauge, and assist students in their learning journey.

Pluto7 works with many large universities who have anywhere from 20,000 to 40,000 students on campus, to solve these and other such problems using Data Analytics, Ai/ML capabilities.

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University administrations are also experiencing multiple challenges to justify student fees for the on campus experience they expected to receive.

Student performance (including grades) is one of the most important metrics colleges, universities, students and their parents care about. Hence, measuring student learning comprehension and value gained are important elements to actively track teachers and students.

Further, the constantly changing trends, health policies and guidelines to be implemented before going back to the old state of in-class education adds another layer of complexity.

It's very important to focus on improving digital learning experiences by leveraging technology to the best extent possible. At **Pluto7**, we've created the **Education ML** solution on top of the Google Cloud Platform to support the needs of students, parents and education institutions.

THE PATH FOR PERSONALIZED EDUCATION

Understanding the student learning experience deeply is critical to personalize education and optimize the learning journey for the student through all stages. For example, a student interacts with the educational institution even before being admitted to the university as he/she shortlists programs and specialties.

Once the admission process is complete, the students engage with the institution by actively participating in the university ecosystem, and experience accelerated growth and development.

Along this journey, students are leaving a digital footprint, or a digital trail. These digital footprints have different forms, such as texts, metrics, audio, video, images, and more.

The current education system is to some extent set up for a generalized grading and evaluation mechanism, while we all know that every student will be unique in her/his capabilities, caliber, interest, background, and willingness to learn and gain knowledge. Today's technologies allow educational institutions to track each digital footprint following ethical privacy policies and leads to the evolution of the **"personalized education"** system. Personalized education brings the best out of the student and allows the educational institutions to grade students reasonably , aligned with their strengths and career goals.

Without leveraging the right technology, it's hard to optimize personalized learning strategies and it comes at a high cost and cannot be at scale.

Today, advanced IT infrastructures and varied learning experiences are changing faster than ever and the Covid-19 crisis has further accelerated the need to digitize and enhance the distance learning experience. The future of learning and educational institutions in the coming years will look similar to some of the sci-fi futuristic movie concepts.

Having access to relevant information such as student interests, where they spend their energy, where and when they focus and how they are engaging with the materials will also help students to be fairly assessed.

This will allow personalization and student success measure in ways that has never happened before.
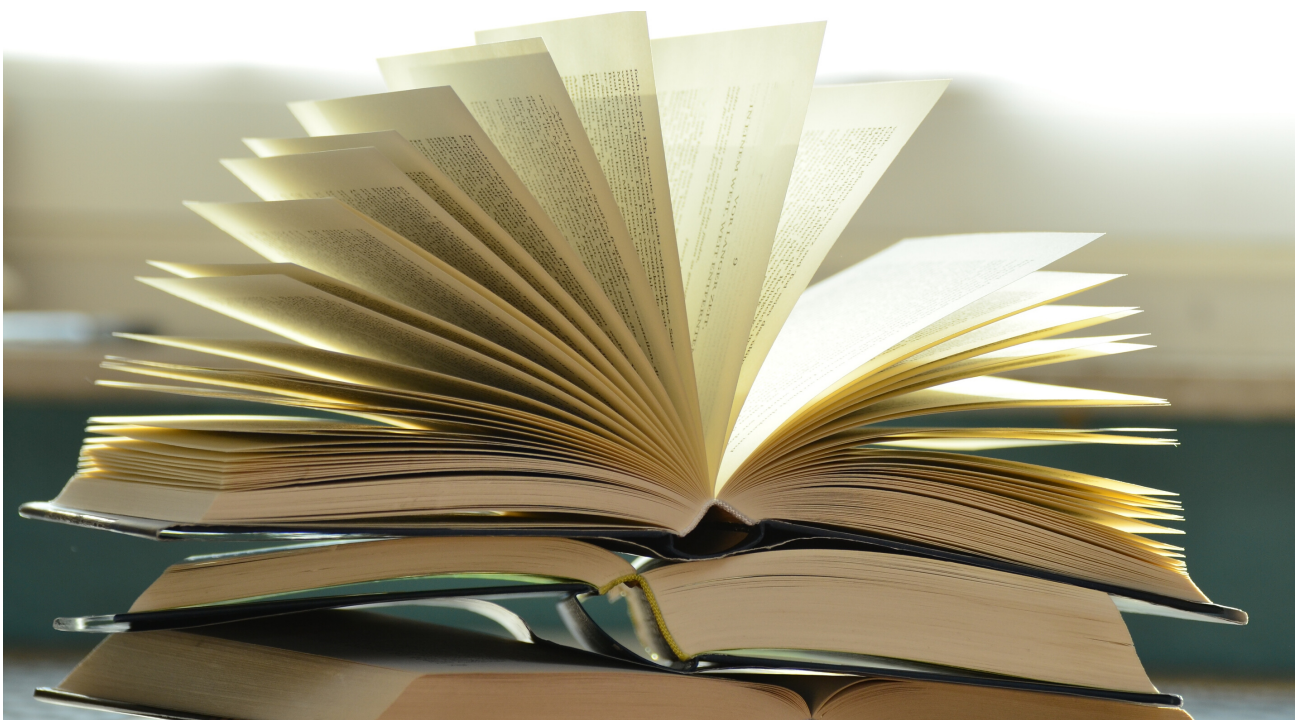
THE ROADMAP TO TRANSFORMATION WITH CLOUD AI

AI on the Cloud is already starting to play a significant role in the transformation of educational institutions. Let us explore different use cases and discover how some of the universities that we work with are using Education ML to improve their student learning experience and learning journey.

Learning tracking - A student going through a digital learning journey is typically watching many educational videos, engaging with various web pages and blogs as she/he interacts with communities, chat-bots and more. These interactions happen during the admission and post admission process as they progress through programs and curriculum.

Educational institutions are now looking to digitally track this learning journey. Having a clear understanding of the analysis of the data from the aggregate of student digital footprints will drive higher engagement and enhance learning experiences.

It's possible to analyze the data by centralizing it on Google Cloud and integrating it with existing Learning Management Systems as well as on-campus systems or data sources. The results of the aggregated and anonymized data will help provide valuable insights about student behavior and preferences at scale, with continuous self-learning capabilities to improve and adapt in real-time.

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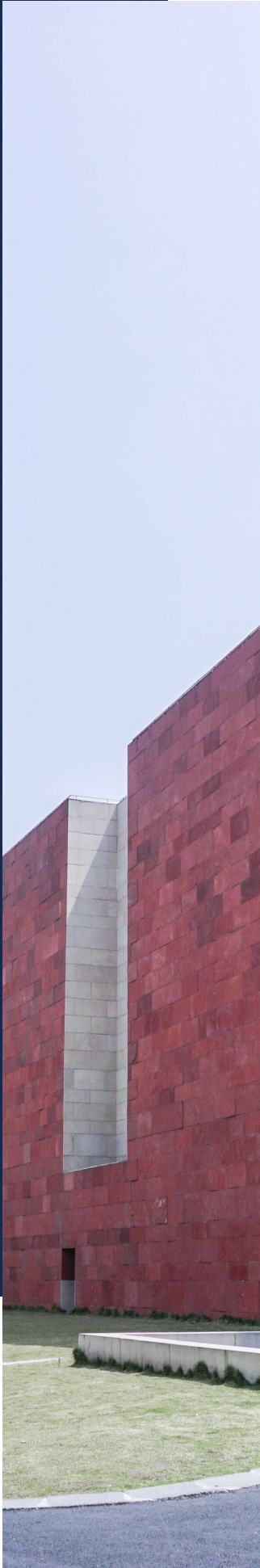
Video Content Insights - Many educational institutions have lots of video content today. These videos are valuable assets as some of them have been recorded for many years - in some cases for decades.

As technology evolves, more educational institutions are leveraging AI to know what is exactly in each video and identify the key learning elements available.

One of the large universities **Pluto7** is working with has roughly 4,000 videos on various courses. The challenge in this case was to find the exact correlation between videos by scanning and mining the actual content of the video by leveraging ML and AI to tag topics to each video.

Video AI will enable the following capabilities:
- Define subject and topic of the video
- Transcribe the video
- Run a sentiment analysis against the content of the video
- Video correlation and mapping

Student Success Modeling - Each student goes through a unique digital learning journey which includes what is of interest to them aligned with the institutions grading criteria. AI recommends courses and enables guided learning techniques where students can comprehend advanced concepts faster.

Spark Notes from Lectures - Capturing spark notes from the lecture helps students review content easily. Educational institutions would like to facilitate this technology to their students to demonstrate it as a value addition or a differentiation. These notes are captured through AI capabilities that can also translate in many languages.

This also allows professors to correlate past content and help students. Relevant subjects mapped with similarities can be leveraged across courses to enrich student learning experience E.g. ML can be referred to in a biotech, data science and a statistics class but it might not be evident from the course name.

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Student and Faculty interactions - With digital and distance learning the amount of interaction between students and faculty have gone up significantly. Subsequently, professors are spending more time answering emails and providing them responses via digital channels. This additional effort is not only taking the faculty away from their core teaching, but also increasing time spent on answering mundane questions like "When is the mid term?"

With Google DialogFlow chat-bot we drive better interactions between the student community. Faculty can exchange ideas and knowledge using the same technology as well. Additionally, this contact center serves as a communication hub, providing automatically the right responses at the right time.

Proctoring with Ai - Another important capability that happens to be a necessity now is proctoring students while the student is taking a test or an exam. AI is currently being explored to see if computers can assist the professors by being a "digital twin" in monitoring the student.

Assignments grading - With the combination of AI and text analytics, assignments are now being considered for evaluation on the cloud, showing signs of improved accuracy and helping more efficient grading. There will still be human oversight in many cases, but it will need much lesser time.

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CONCLUSION

Universities, schools and educational institutions need to drive innovation at scale as distance learning has transformed how students and faculty interact. If handled well, this digital transformation and Ai can become a key differentiator for many institutions and will transform their education system in a significant way in the coming months and years to ensure high caliber education to students.

AI on Cloud plays a significant role in acting as a digital twin/assistant to the professors and faculty in many ways, from optimized student experience and proctoring to assignment grading and more. Universities who do not transform at the right pace (and well enough) will be left behind and will be hit with a serious set of economic factors that further complicate the situation where the students and the parents question the value of the education - especially if on campus interactions are missing.

Pluto7 actively works with various educational institutions in America and India bringing in the rich experience of handling the most innovative and challenging use cases. **Pluto7's Education ML** solution - available on the Google Cloud marketplace - allows the institutions to explore and ignite innovation.

Please reach out to marketing@pluto7.com for a demo or a free workshop to discuss your innovation ideas and validate if they can be solved using Google Cloud and our solutions.

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