



# Using Data Analytics to Enhance Student Services

Improving the student experience and student performance hinges on modern approaches to capturing and analyzing data.



**BRIAN HAGAN**  
Senior Solutions Engineer  
Cloudera

**T**HE ABILITY TO AGGREGATE AND analyze data is central to institutions' capacity to identify trends and find ways to better meet the needs of students. In fact, I would argue that those improvements are not possible without data analytics.

If an institution evaluates withdrawal rates across student populations, for example, it can reveal valuable insights about a particular subject or even a single class offering. Unfortunately, data capture is often rudimentary on campuses. Individual systems have different methods of sending data files, and manual intervention is often required to move files to a central location, with some scripting involved to string together the datasets. Those processes are difficult and time-consuming to develop, maintain and troubleshoot.

There are more efficient and secure ways of capturing data. For starters, institutions should take advantage of automation. When they move away from manual processing and shift to configuration-based data-flow technologies, they reduce the time it takes to develop pipelines for capturing data. In addition, many of those technologies provide a graphical user interface, which further streamlines and simplifies analysis.

## Ensuring the Successful Adoption of AI

In addition to automation, artificial intelligence can transform the way colleges and universities provide services to their students. When higher education leaders understand the value and availability of AI, they can create a vision for its adoption. Then data analysts can use AI to accelerate the institution's delivery of student services and improve its ability to predict outcomes early, enabling educators to address trouble spots early or invest in key initiatives.

With AI, analysts can focus at the level of the entire student population, a certain demographic profile or the individual student. For example, AI can integrate with a campus learning system to identify students who may be at risk of dropping out.

To be successful, AI must be part of an institution's overall data management strategy, and the IT infrastructure should be built or updated to support that strategy. Choosing the right AI technology involves carefully considering how it will fit into a broader, long-term IT model and the existing security policies. That's the best way to ensure that the institution's data scientists are operating in a manner that adheres to established policies.

AI should also be integrated into the institution's cloud strategy so that AI tools are deployed, managed and used consistently across on-premises, multi-cloud and hybrid environments.

## Streamlining and Automating Data Analysis

Helping colleges and universities make the most of their data is what Cloudera is all about. The Cloudera Data Platform looks at data from various perspectives across the data life cycle, including collection, enrichment and warehousing. In terms of security, we help institutions ensure that they have a common set of authorization policies across all tools and processes and that those policies integrate effectively with existing authentication technology so administrators know

who is accessing data and what they're doing with that data.

In addition, the platform's analytics capabilities enable institutions to simplify and automate data collection and use AI to better serve students. Let's say a university is collecting data from campus learning systems and enriching it with admissions data while using AI to make predictions for upcoming enrollment periods. The Cloudera Data Platform visualizes all those results in an interactive dashboard that can be shared securely with decision-makers across a hybrid, multi-cloud environment. It helps provide the powerful insights that are essential for enriching the student experience.

---

*Brian Hagan is a senior solutions engineer at Cloudera.*



# There's never been a better time to move forward.

**Delivering vaccines to millions of people in months, not years.**

**Identifying at-risk students to help them get ahead, not fall behind.**

The right data insights can change lives. Whether that's enabling breakthrough medical research or improving student graduation rates, Cloudera's hybrid data cloud gives leaders in education the analytics they need to move their institutions forward.

[cloudera.com/publicsector](https://cloudera.com/publicsector)

**CLOUDERA**  
Data That Moves You