Meet the world’s first
Semantic AI technology for business.

Breakout Session: Automating Educational Operations

August 2, 2024

LEXICA

- We are an Artificial Intelligence company.
- The only one in the world focused on a Semantic Technique to help businesses thrive.
- Patented Technology in 20+ countries.
- We've tested our technology in Latin America for the past 9 years.
- Our technology is industry-agnostic, covering multiple industries with both vertical and horizontal use cases.

Consumer Packaged Goods

Auditing & Accounting

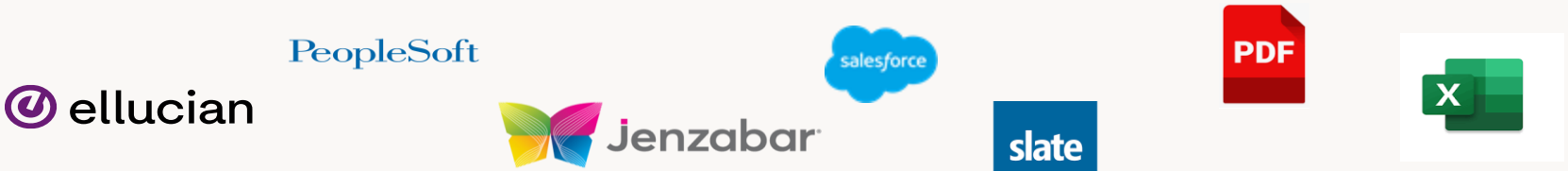
Energy

Human Resources . Legal & Compliance. Logistics. Finance. Administrative

OUR MISSION

To inject your business intelligence into your data.

No matter where the data comes from or what software* you use: (for example)



Corporate logos do not represent endorsements.

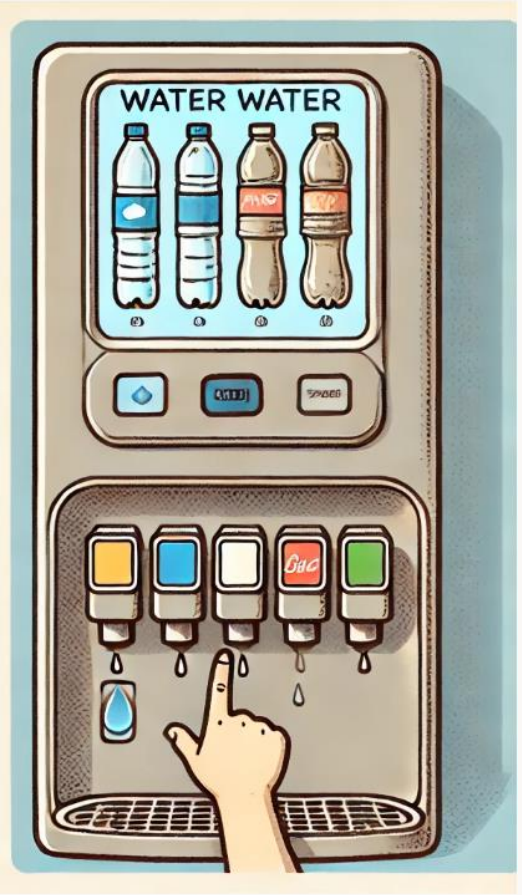
*Ensuring the software has API integration capabilities

WHAT THAT MEANS

Lexica Semantic AI adds a semantic layer that brings your data to life and understands your business. It integrates with any software you already have. No need to start from scratch. Like the water filtration analogy below.

This is your data – siloed, static, not clean or AI Ready.

We add a Semantic Filter that cleans and organizes the data automatically.



When we filter data from any source we turn it into an intelligent dispenser that understands your needs automatically.

THE CHALLENGE:
WE ARE INUNDATED WITH DATA

By 2025, the world is projected to store an enormous 200 zettabytes* of data.

This is equivalent to over 48 football fields worth of storage.

However, much of this data currently exists in isolated silos, remains static, and lacks intelligent utilization.

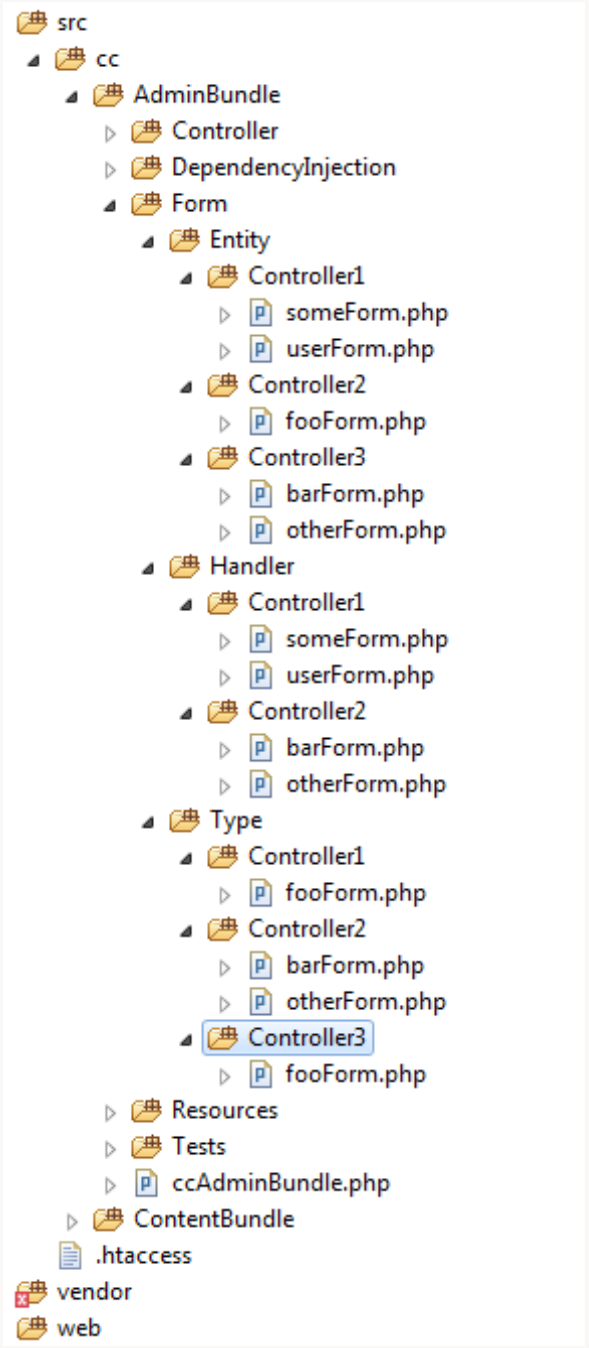
As the volume of data continues to grow exponentially, organizations must develop innovative solutions to harness its potential while addressing associated challenges.

To achieve this, we must begin at the very foundation: by organizing data effectively.

Source: *Cybersecurityventrues.com

DATA ORGANIZATION TODAY LIES IN A HIERARCHICAL STORAGE SYSTEM

It's a manual and tedious process where the documents don't know of each other's existence and a decision needs to be made as to how to organize it.



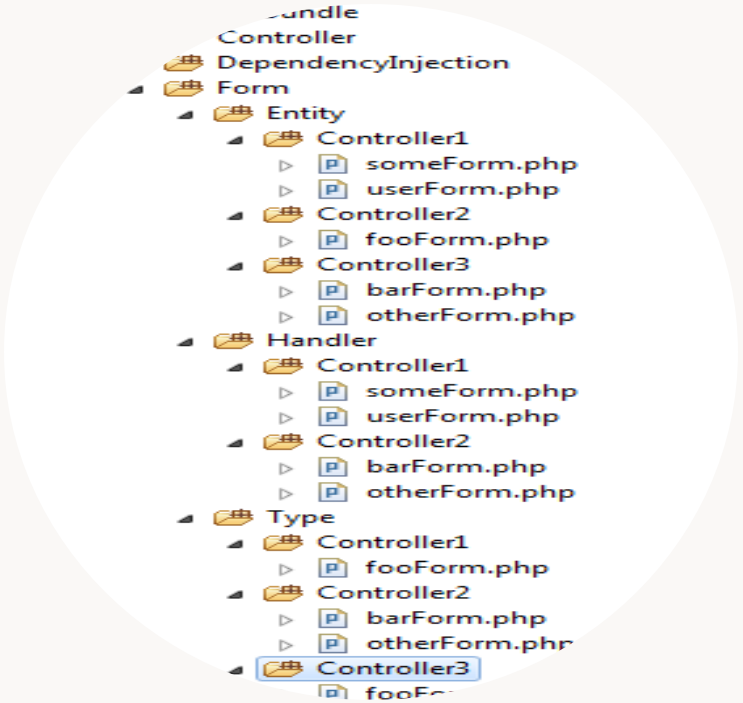
WHO DECIDES?

With so many stakeholders, the outcome is often multiple teams independently organizing the data in their own ways, leading to data silos where each department can't fully utilize the data from other departments.

Chief
Data Officer

Data Governance
Committee

Business Unit Leaders
and Managers



External Consultants
or Vendors

Data Architects and
Analysts

Compliance and
Legal Team

IT Department

End-Users:
Staff Members / Admins

THE COMMUNIY COLLEGE CHALLENGE

For Community Colleges this means having to manage an estimated hundreds of thousands to over a million documents in each department, and none of that data is aware of business objectives.

Admissions Documents:
Application forms
Acceptance and rejection letters
Enrollment forms
Scholarship and financial aid applications

Student Records:
Transcripts
Attendance records
Grade reports
Disciplinary records

Financial Documents:
Tuition and fee schedules
Billing statements
Financial aid award letters
Budget reports
Expense receipts

Human Resources Documents:
Employment contracts
Job descriptions
Performance reviews
Payroll records
Benefits enrollment forms
Staff training materials

Policy and Procedure Manuals:
Student handbook
Faculty handbook
Code of conduct
Emergency procedures
Health and safety guidelines

Meeting Documents:
Agendas
Minutes
Board of Trustees reports
Committee reports

Legal and Compliance Documents:
Accreditation reports
Compliance audit reports
Intellectual property agreements
Data protection policies
Contracts and MOUs with partners

Facility Management Documents:
Maintenance logs
Room scheduling forms
Security reports
Space utilization reports

Marketing and Communication Materials:
Press releases
Newsletters
Marketing brochures
Event flyers
Social media content plans

Academic Administration Documents:
Course catalogs
Class schedules
Curriculum development reports
Academic program proposals
Faculty meeting minutes

Strategic Planning Documents:
Institutional strategic plans
Annual reports
SWOT analysis reports
Fundraising campaign materials

IT and Technology Documents:
IT policies and procedures
Software licensing agreements
User guides and manuals
Incident reports

Imagine spending less time organizing, classifying, and searching for your data, and more time focusing on what matters most for your community college—educating and supporting your students.

Let's look at how Lexica can support the enrollment process, as an example.

LEXICA CAN HELP YOU ACHIEVE IT: WATCH THE VIDEO

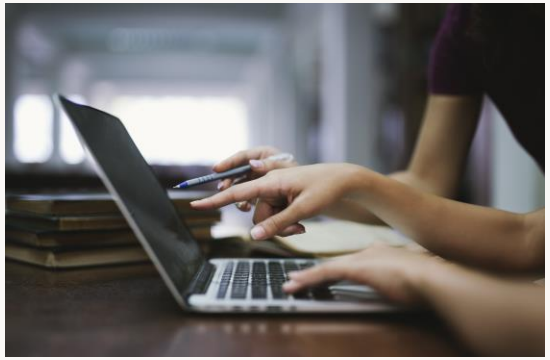
https://www.youtube.com/watch?v=xOcp_tuC5y4

HOW LEXICA IS DIFFERENT FROM WHAT IS AVAILABLE TODAY

Semantic AI provides the highest level of automation and intelligence, enabling colleges to handle large volumes of applications efficiently while organizing them automatically.

Traditional Method:

Basic Doc Management with Manual Processes



How it works:
Depends on manual data entry and mental categorization. Documents are confined to single categories/folders.

Organize: Admissions staff manually uploads and categorizes documents based on predefined criteria

Search: Navigate folders and use specific search terms to find content.

Gen AI:

Organizer & Chatbot powered by Generative AI

How it works
Build custom software and use an LLM copilot for category suggestions

Organize: Custom software creates categories based on human-selected options provided by the AI, then organizes documents accordingly.

Search: The software uses AI to search within a limit of processed documents, but risks potential inaccuracies.

Lexica Semantic AI

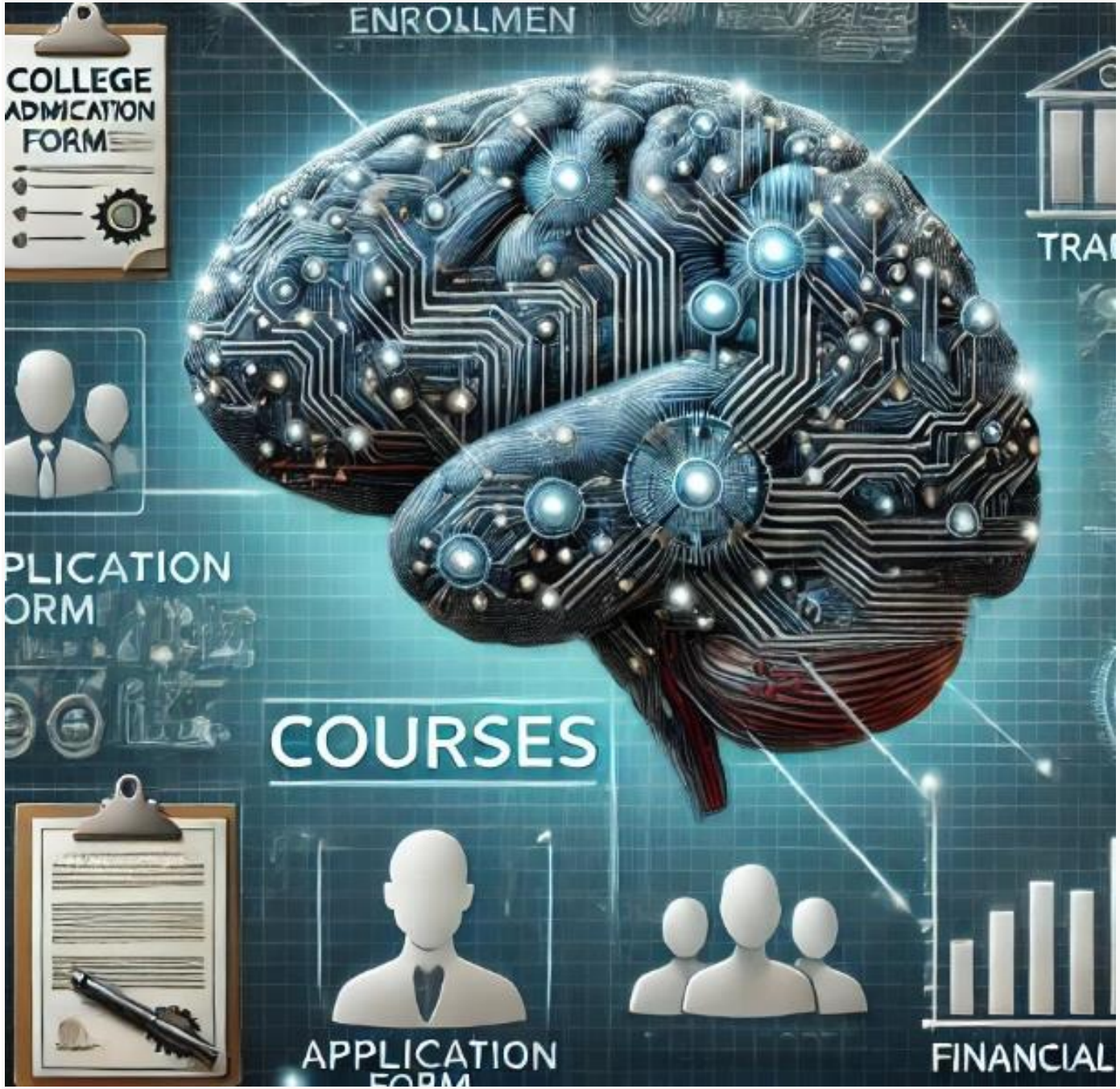
Organizes, stores and searches in one step

How it works:
Understands the meaning and context of documents. We train our semantic models to understand the data not memorize it.

Organize and Store: Automatically creates categories, based on its understanding of the document. Allowing a document to live in mulitple categories at once.

Search: Documents are analyzed by context allowing to find by filtering via categories or via query.

LEXICA DOES IT IN THREE STEPS.



FIRST: OUR SEMANTIC MODEL IS TRAINED

We begin by ensuring our semantic models, which we refer to as Brains, fully comprehend the Admissions Process at a community college. This enables the model to accurately classify data and apply the relevant business criteria.

Our models learn the business knowledge in plain English – no coding required.

More importantly, we do not use any of your data to train our models.

This is our biggest point of differentiation.

SAMPLE OF HOW AN ADMISSIONS MODEL WOULD BE TRAINED

There are educational institutions that provide educational services to individuals. These individuals have different roles in the study process depending on their stage.

- They are applicants when they apply for admission.
- They are students when they are enrolled in a program.
- They are alumni when they have completed their studies at the institution.

Individuals have personal data, such as first and last names, date of birth, place of birth, and nationality. Individuals also have other people as associated contacts, with different relationships, such as family members, guardians, or others.

As applicants, individuals must meet certain requirements depending on their profile and the services provided by the educational institution. The requirements can include presenting documentation, taking placement tests, or attending interviews. The requirements can be mandatory or optional.

The documentation to be presented can vary in type, and each type of document contains different kinds of data.

There is a process through which educational institutions provide educational services. This process consists of various stages, and each stage involves carrying out certain steps.

In the admission stage, applicants must submit their documents. The institution's administrator must then evaluate the documentation and approve it if it is complete. If it is incomplete, the administrator must request the applicant to complete it.

SECOND: BUSINESS CRITERIA IS ADJUSTED TO MEET YOUR SPECIFIC NEEDS

Every company, department or team has its own set of rules that govern how things work. By understanding these rules or criteria and allowing you to calibrate them in real time, we help your data become intelligent making your business run more efficiently.

As an example, this is a sample set of Admissions Business Rules or Criteria that we would give our system:

1. **Completion of Application:** All prospective students must complete and submit a formal application for admission to the college.

2. **Hight School Diploma or GED:** Students must show proof of high school graduation or GED certificate for admission to the college.

3. **Transfer Credits:** Transfer students must have completed certain courses and meet GPA requirements for their credits to be accepted.

THIRD:
WE ADD OUR SEMANTIC FILTER TO YOUR DATA

We integrate all your existing software into one intelligent application, preserving your current systems. As data flows through our semantic filter, we infuse it with business intelligence and activate your specific business criteria in a single, seamless process.

Your data is now aware of its context and its relationships with surrounding data.

The system then organizes itself autonomously, without human intervention or LLM recommendations. This flexibility allows data to exist in multiple relevant categories simultaneously.

Consequently, you can instantly search data in real time, generate reports, send automatic notifications, and streamline manual processes, all from one central hub.

THE IMPACT

When your data is intelligent you see real impact.

15x

More efficient and effective business operations

0%

Contribution to greenhouse gas emissions and climate change

90%

Decreased data redundancy - enhancing data security

70%

Average time savings in Intelligent Application building

$$$

Lower TCO (Total Cost of Ownership)

100%

Data privacy. Lexica doesn't require business data to train models

Data derived from 100+ Lexica projects with partners and clients since 2015

INTELLIGENT DATA ALLEVIATES GENERATIVE AI'S PAIN POINTS

Accuracy & Reliability:
While generative AI offers incredible potential, the accuracy and reliability of the outputs can be inconsistent, making it challenging to trust for critical business decisions.

Bias & Ethical Concerns:
Generative AI models can perpetuate biases present in the training data, leading to ethical concerns and potentially damaging outcomes for the institution.

Data Privacy & Security:
Integrating generative AI raises significant concerns about data privacy and security, especially when dealing with sensitive student information.

Transparency:
One of the biggest issues is the 'black box' nature of generative AI; it's hard to understand how decisions are made, which affects our ability to trust and explain the results to stakeholders.

Cost & ROI:
The high cost of developing and maintaining generative AI systems often outweighs the perceived benefits, making it difficult to justify the investment without clear ROI.

WE TRANSFORM ANY DATA CHALLENGE INTO ACTIONABLE SOLUTIONS

Get started today:

- ☑ Identify a low hanging fruit business challenge.
- ☑ Know your business rules or criteria.
- ☑ Contact us to create an intelligent application that unifies all of your software into a single central hub.
- ☑ Watch your data gain intelligence about your business.
- ☑ Test it.
- ☑ Evolve and grow your intelligent application.

All in plain English (natural language) - no coding

SAMPLE CHALLENGES WE CAN HELP YOU SOLVE

This is just a glimpse of how Lexica can enhance your operations:

1. Improving student retention by identifying at-risk students through data analysis and providing timely interventions.
2. Enhancing academic advising by offering personalized course recommendations based on student data and program requirements.
3. Optimizing course scheduling to meet student needs and maximize resource utilization.
4. Automating the evaluation of transfer credits to speed up the process and ensure consistency.
5. Providing 24/7 student support through AI-powered chatbots for common queries and issues.
6. Personalizing learning experiences by adapting course content to individual student needs and learning styles.
7. Improving financial aid processing by automating eligibility checks and document verification.
8. Enhancing career services by matching student skills and interests with job market demands.
9. Streamlining administrative tasks to allow staff to focus on more complex, high-value activities.
10. Improving data-driven decision-making by integrating and analyzing data from various campus systems.
11. Optimizing resource allocation based on predictive analytics of student enrollment and program demand.
12. Enhancing library services with intelligent search and recommendation systems for academic resources at the metadata level.
13. Automating grading for certain types of assessments to reduce faculty workload.
14. Improving curriculum development by analyzing industry trends, market demand and student outcomes.
15. Enhancing alumni engagement through personalized communications and targeted outreach.

If the challenge is data related. We can help you.

THANK YOU

Let's stay connected.

Liliana Cerilo
Chief Marketing Officer
liliana.cerilo@lexicacorp.com

Semantic AI Technology for Business.
Lexicacorp.com