

GUIDE

# A Comprehensive Guide to Artificial Intelligence Chatbots in Higher Education





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Artificial intelligence (AI) is disrupting every industry, from healthcare to transportation to finance. It's one of the fastest-growing emerging technologies with massive potential across many areas.

As it turns out, AI is also transforming higher education and proving to be a game-changing technology for institutional purposes, student support, and instructional needs. At the same time, it's a cost-effective way for institutions to drive enrollment and scale engagement, services, and support across digital channels.

As such, higher education planners should seek to integrate AI into operations across all touchpoints. In this guide, we'll dive into higher education AI chatbots—including what they are, how they work, and how they enhance the student experience. Let's start by exploring some challenges colleges are going through.





# Today's **Challenges** in Higher Education

Colleges today face challenges in the post-pandemic landscape, forcing them to modernize their operations and adopt new strategies for survival.

## | **Declining Enrollment**

Fewer and fewer young people are enrolling in college. In fact, [college enrollment](#) has decreased by 13 percent in recent years. For some minority students, the decline is hovering between 20 percent and 30 percent—a troubling discovery.

## | **Rising Student Attrition**

As if declining enrollment isn't scary enough, higher ed institutions are also struggling with rising attrition rates. This is especially evident in [public two-year institutions](#), where only 40 percent of students obtain a degree or credential within six years. Low grades, financial difficulties, and a lack of commitment contribute to attrition.

## | **Changing Expectations in Remote Learning**

The global pandemic transformed the way colleges interact with students. Higher ed institutions must now have robust digital services to accommodate remote and onsite students. Unfortunately, institutions that resist digitization risk alienating students who demand modern tools and services.

As we explain in a recent survey of over 500 recent [U.S. college graduates](#), modern students expect flexibility in how they learn. When colleges don't offer flexibility, it's a deal-breaker for many students.

## | **Reduced Budgets**

U.S. universities experienced [widespread budget cuts](#) due to the COVID-19 pandemic. Today, many are still struggling to recover. With less money and fewer resources, institutions must find ways to accommodate students and keep operations moving.





## **| Student Demands**

While colleges struggle with less financing and fewer resources, student expectations are steadily rising thanks to advancements in cloud computing, connectivity, and mobility. Colleges today must maintain a strong student experience and keep up with evolving demands to remain competitive.



# What Is **Artificial Intelligence**?

As you can see, the pressure is rising for higher education institutions. So it comes as no surprise that many higher ed institutions are turning to AI to streamline operations.

At a high level, AI involves training and developing computer systems to perform complex tasks that require human intelligence. AI applies to many areas, but the most common include decision- making, language translations, work automation, speech recognition, and visual perception.

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Although AI is still in its early stages, the technology is rapidly maturing and making its way into everyday services. Common examples include shopping applications, fraud prevention services, autonomous vehicles, and recommendation engines. Altogether, the [global AI market](#) is on pace to exceed \$119 billion in 2022—up from about \$87 billion in 2021.

AI is also transforming higher education. For example, colleges now use AI to analyze campus safety, waste management, food services, and retention rates, to name a few examples.

One of the most exciting applications for AI in higher education is digital chatbots, which can potentially to transform websites and learning portals into interactive and engaging resources for students, faculty members, and parents.

# An Introduction to Chatbots for Higher Education

How do college students communicate today? Take a look at any college campus, and you'll find students glued to their phones. For most interactions, students now use services like SMS, Twitter, WhatsApp, Messenger, and email.

To engage with students, colleges need to embrace messaging at every turn. This is where AI chatbots come into play.

A chatbot is a digital tool that can have conversations with humans using text messaging. Chatbots are also known as virtual assistants or virtual agents.

When they first hit the market, chatbots couldn't have advanced conversations with humans. But thanks to AI, chatbots are becoming more and more intelligent and capable of helping students in real time.

**Features and functionalities vary across different types of chatbots, so it's important to thoroughly research and compare various models before adding them to your digital channels.**

There are several different use cases for chatbots, including scheduling bots for setting up meetings and appointments. You can also use chatbots for sales and marketing purposes or to chat with website visitors and direct them to specific pages and resources.

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## **Chabot vs. Live Chat: What's the Difference?**

Because you're new to chatbots, you're probably wondering how they differ from live chat.

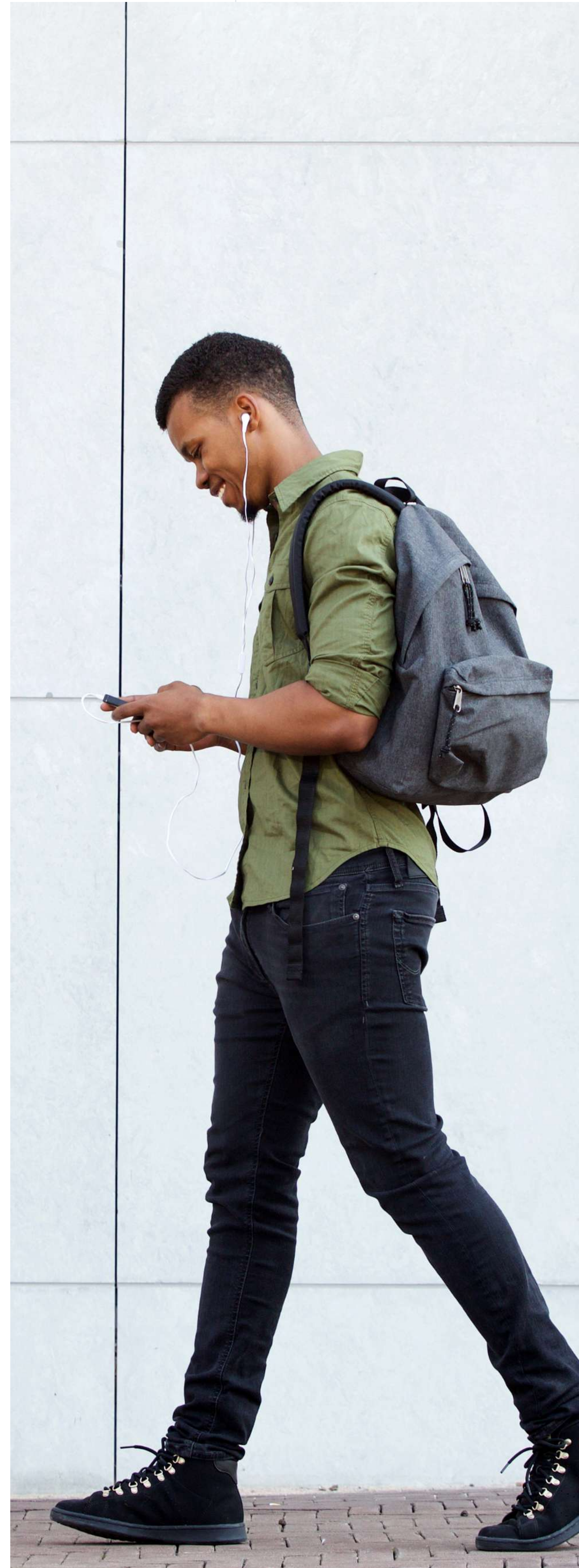
It's simple: A chatbot leverages AI to have fully automated conversions, whereas live chat relies on human agents. Chatbots are generally more efficient because a single bot can have multiple simultaneous conversations. They are also much more cost-effective, as they don't always require human support, meaning you can keep fewer agents on standby and reduce payroll expenses.

Of course, even the most intelligent bots are less effective than humans at having advanced conversations. For this reason, many organizations take a hybrid approach and keep live agents on standby so they can seamlessly jump in when further assistance is necessary. This dual-pronged strategy can create a more personalized user experience. Oftentimes, a single agent will oversee 5-10 automated chat windows simultaneously and jump in when necessary.

## **How Do Chatbots Work?**

The great part about chatbots is that they are simple to use. When someone visits a website or learning portal, all they have to do is click a button to connect with a chatbot.

Once the user connects with the bot, they can begin firing off questions. Some bots ask users to press buttons, whereas others let them type in their questions directly.





# The Role of Artificial Intelligence in Chatbots

AI provides a much deeper level of support and functionality compared to traditional chatbots due to its ability to quickly process and respond to large data volumes in real time.

Without AI, chatbots can only handle basic user requests. But with AI, chatbots can have much more complex and engaging conversations. As a result, the combination of AI and chatbot functionality empowers higher education institutions to enhance the student experience across all digital channels.

**Here are some ways that AI enhances chatbot functionality:**

## 01. Cognitive Thinking

AI chatbots use natural language processing (NLP) to achieve cognitive thinking and understand different data inputs. This allows an AI chatbot to think intelligently about what users are saying and form responses that align with their needs. It also allows the bot to have more natural and accurate conversations.

To illustrate, imagine a student asking a chatbot about the best place to buy food on campus. With cognitive thinking in place, the bot could ask questions about allergy concerns, food preferences, and the occasion (like lunch, a date, or late-night snacks).

## 02. Memory

Traditional chatbots are unable to have ongoing conversations with users. Once a user exits a screen, the conversation starts over. But with AI, chatbots can have long-term memory. They can store information and have conversations that span days, weeks, or even months. This enables much deeper engagement and a stronger overall user experience.



### **03. Persistence**

In today's mobile world, users often bounce between multiple devices like laptops, smartphones, and tablets. It's important to enable seamless experiences across all of these.

AI enables conversation persistence—or continuation across different devices. For example, a student might chat with a learning assistant on their laptop and continue the conversation on their mobile device while sitting on the bus or walking to class.

### **05. Topic Switching**

Chatbots are notoriously bad at switching topics during conversations. But with the help of AI, they can change direction with ease and process requests on the fly.

For example, imagine someone visiting a website for the first time. That person might have questions about average acceptance rates, standardized testing, campus activities, or housing. With AI, the chatbot could field different questions with ease and provide a wealth of information.

### **06. Personalization and Personality**

One of the difficult parts of creating a chatbot is making it sound like a real person. The chatbot needs to have a personality that matches the style and tone of the digital channel.

Developers and marketers use AI to bring chatbots to life and connect with users in meaningful ways. To illustrate, a chatbot on an athletics page might resemble the voice and tone of the college's mascot. But the chatbot on the library page should have a more academic and professional tone. In other words, AI makes it possible to customize chatbots for different settings.



# The **Best AI Chatbot** for Higher Education

Ivy offers a world-class chatbot you can deploy in just minutes. It also builds knowledge automatically without any updates, making it one of the easiest and most effective chatbots for higher education.

If you're looking for a hands-free university chatbot to create jaw-dropping digital experiences, look no further than Ivy.

## Request a Demo Today

Chat with us to learn how you can become ivy.ai's next greatest success story.

Request a Demo →

While you're at it, [check out our case studies](#) to learn about the easiest way to transform your student experience with chatbots.

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