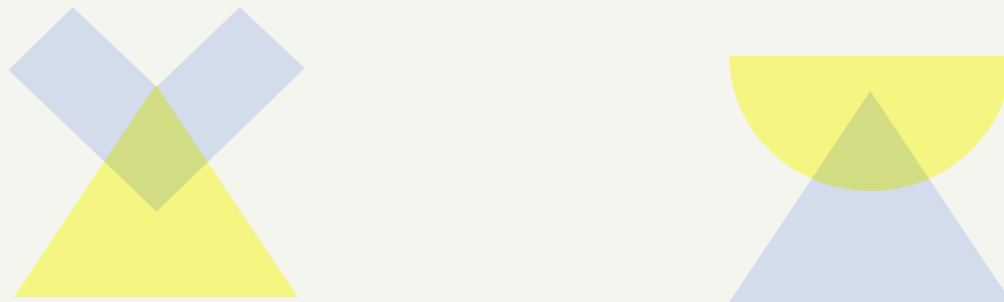


# CampusEvolve reimagines college advising — with help from generative AI

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**CampusEvolve.ai** is a startup whose mission is to accelerate every student's path to success through intentional and responsible use of AI. We pursue this mission through partnering deeply with students and their schools to develop AI products that have the highest impact on learning outcomes. <http://campusevolve.ai>

**Axim Collaborative** is a social enterprise dedicated to expanding access to post-secondary education and deepening its impact for millions of learners. Our mission is to make learning more accessible, more relevant, and more effective for all learners to drive strong student outcomes. <http://axim.org>

In 2023, Maria Langworthy met a young woman who was trying yet again to earn a college degree. COVID-19 cut short her first attempt, but if truth be told, she was frustrated with her major and needed a break. The student eventually enrolled at a second institution, which refused to accept some previous credits. She reluctantly but dutifully repeated those courses, and after a few semesters, graduation finally felt within her reach.

Unfortunately, she had neglected to take two core requirements, a fact that somehow had escaped her advisors. Out of money and short of patience, she quit just six credits shy of completion. The student told Langworthy that she had enrolled at yet another college, hoping the third time would be the charm.

The situation is all too common in higher education, particularly for first-generation college students and those from marginalized communities. More than one-third of U.S. college students change schools once in six years, and nearly half of those change twice, according to a study by the National Student Clearinghouse. The U.S. Government Accountability Office says that along the way, these students lose an average of 43 percent of their credits.

What's an inconvenience for some can be the difference between persistence and stopping out for others. Take first-generation students. It might be too challenging to ask an academic advisor what courses to take and attempt to figure it out themselves instead. Even a minor misstep, like taking the wrong chemistry course or skipping a language requirement, can cost them time and money they don't have — or prompt them to give up altogether. They often don't know about all the resources most colleges offer, from counseling and IT support to career planning. While these services are designed to provide holistic support for students, students don't find them amid the 3,000 or more pages on their college's website.

That's why Langworthy and two colleagues founded CampusEvolve in August 2023. The startup leverages generative AI to help students navigate the complexity of college. The company's first tool, the AI Advisor Assistant, uses generative AI to offer personalized, one-stop advising, which research shows can boost completion rates and student success. Yet student to advisor ratios are 300 to 1, making it difficult to use the services even if a student finds them. CampusEvolve is piloting the tool at the University of Central Florida and Indiana Tech.

Most institutions expect students to conform to the system, Langworthy said. CampusEvolve is developing a tool that serves students at their points of need, providing personalized experiences along the way.

“What we've heard over and over from students is they feel like it's their fault if they don't know about these supports, and that other students must already know about them. When, in fact, most students struggle,” she said. “Our tool is trying to make it easier to find the information they need and get end to end support from a system that knows where they are in their learning journey and can anticipate their needs.”

## PERSONALIZED RESPONSES

CampusEvolve's founders are veterans of the edtech ecosystem. Langworthy spent seven years leading Microsoft Education's research into how data and artificial intelligence can advance learning outcomes. Mary Nelson was a principal data scientist at Microsoft, managing analytics on products that reached more than 150 million students. Reinhold Staudinger led Blackboard and Anthology's data strategies. They noticed that most generative AI education products on college campuses are classroom-oriented, such as teacher tools, AI-enhanced curriculum and tutoring services.

Langworthy's research — and her own experiences — told her that academic struggles are just one reason why students drop out. As they were building the tool, her daughter was starting college. “I saw first hand the amazing complexity and bureaucracy of education systems up close,” she said. “It was the antithesis of user-friendly design.”

In mid-October 2023, the trio created a beta of the AI Advisor Assistant application, which uses a large language model (LLM) to provide students with a conversational experience on signing up for courses, finding accessible resources, and planning career paths. It personalizes responses by combining a college's unstructured data, like course catalogs and website content, with student profile data that's continuously enriched by a student's chat history.

An example: A student majoring in physics might ask the app, “What kind of internship should I get?” The AI Advisor Assistant's response not only recommends university partners who offer internships specifically for physics majors — in this case, Lockheed Martin. CampusEvolve also will develop scaffolds to help students with things that might be intimidating, like writing an email to an alumnus who participated in the same internship program.

Many generative AI-powered applications rely on retrieval augmented generation (RAG), a method for grounding an LLM in an organization's specific data. But this process can result in high-level nonspecific responses to users' questions, or repeat information they already know. In other words, RAG often retrieves data that matches the question semantically, but is outdated, misleading, or too general to be useful. In the case of the physics major, a simple RAG-based system might recommend contacting the university's internship coordinator.

By contrast, CampusEvolve is developing an AI-enabled application that oversees responses and connects a topic based on a framework for success with data specific to the student's context. For the physics major, the app would connect their courses and interests with internships by searching the university's employer partners and job descriptions to accelerate the desired outcome (landing an internship in a physics-related field). It prompts the AI Advisor Assistant to ask the student more specific questions like, "Do you want a full-time or part-time internship?" or "What aspect of physics interests you most?" to finetune the advice.

Unlike the old-school chatbots, the AI Advisor Assistant doesn't provide "canned" responses based on highly structured, predefined questions and answers. Using generative AI natively increases their relevance and specificity, Langworthy said.

## HOLISTIC ADVISING

CampusEvolve is conducting rigorous testing in the real university environments of UCF and Indiana Tech. CampusEvolve is starting with underresourced institutions that have inclusive pathways and a broad reach to underserved students. By designing with the needs of these students and institutions in mind, the company aims to drive necessary innovation to realize the greatest impact.

Nelson, the team's top data scientist, said that among the questions needing answers is whether the AI Advisor Assistant actually helps students access more resources and ask more questions than they otherwise would. The testing will also determine whether the tool is equitable for a wide range of student groups.

The company will test the tool on 200 students at each institution in mid-2024, but the larger goal is reaching the broadest number of students. "We can build something that could affect the entire student body," she said. "That suggests a very powerful use case and an easier adoption curve."

But CampusEvolve faces challenges integrating the AI Advisor Assistant into higher education's often rigid systems. The company will need buy-in from advisors, most of whom have little time to familiarize themselves with yet another tool. Students, too, use a plethora of apps and platforms, which can compound the sensory overload some students feel, especially during their first semester.

The beta testing will go a long way toward demonstrating to institutions and students that technology can improve student outcomes, something Nelson said is “part of a much larger story around how artificial intelligence can personalize and compartmentalize education.”

The team finds motivation from conversations with university leaders who are just as excited by the prospects of providing one-stop advising that supports students from enrollment to completion. “They know they're putting millions of dollars into student support services and it's not working. They have really clear visions of how they want to change that system,” Langworthy said. “Our collaboration with a group of university partners is really exciting. Together, we're designing a tool for the next generation of student success.”