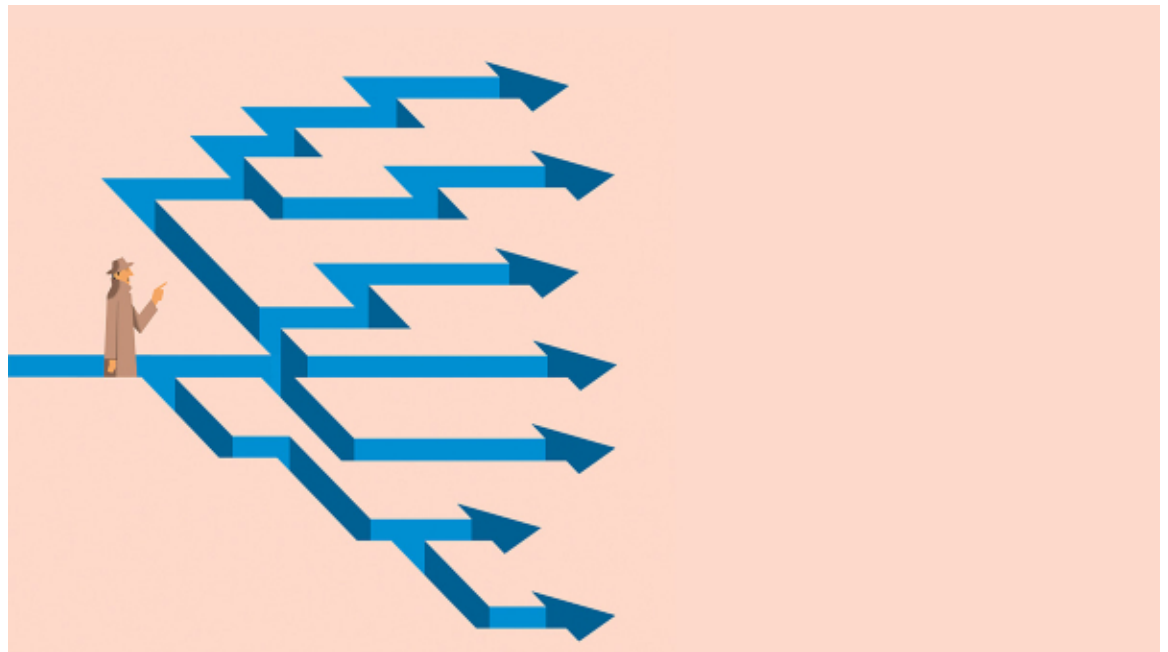


COMMUNICATION

How Georgia State University Used an Algorithm to Help Students Navigate the Road to College

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As AI continues to develop, a major test of its potential will be whether it can replace human judgment in individualized, complex ways. At Georgia State University, [we investigated a test case where AI assisted high school students in their transition to college](#), helping them to navigate the many twists and turns along the way.

From the perspective of an AI system, the college transition provides intriguing challenges and opportunities. A successful system must cope with individual idiosyncrasies and varied needs. For instance, after acceptance into college, students must navigate a host of well-defined but challenging tasks: completing financial aid applications, submitting a final high school transcript, obtaining immunizations, accepting student loans, and paying tuition, among others. Fail to support students on some of these tasks and many of them — particularly those from low-income backgrounds or those who would be the first in their families to attend college — may succumb to [summer melt](#), the phenomenon where students who intend to go to college fail to matriculate. At the same time, providing generic outreach to all students — including those who have already completed these tasks or feel confident that they know what they need to do — risks alienating a subset of students. In addition, outreach to students who are on-track may inadvertently confuse them or lead them to opt out of the support system before they might actually need it.

Previous efforts to address summer melt have included [individual counselor outreach](#) or [automated text-message outreach](#). Both strategies allowed students to communicate with advisors one-on-one and significantly improved on-time college enrollment. However, scaling these strategies requires significant staffing of human counselors to address the specific questions and personal needs of each student.

Artificial intelligence (AI) could dramatically change the viability of providing students with outreach and support if it can be tailored to address their personal needs. In collaboration with Georgia State University (GSU), we tested whether “Pounce,” a conversational AI system built by [AdmitHub](#) and named for the GSU mascot, could efficiently support would-be college freshmen with their transition to college. Pounce features two key innovations. First, the system integrates university data on students’ progress with required pre-matriculation tasks. Thus, rather than providing generic suggestions, Pounce matches the text-based outreach that students receive to the tasks on which data indicates they need to make progress and therefore may need help. For example, only students who did not complete the FAFSA would receive outreach from Pounce. These students could learn about the importance of applying for financial aid and receive step-by-step guidance through the process if they chose to. Those with completed FAFSA forms would never be bothered with these messages. In this way, the system provides students with individualized outreach. Second, the Pounce system leverages artificial intelligence to handle an ever-growing set of student issues, challenges, and questions (e.g., When is orientation? Can I have a car on campus? Where do I find a work-study job?). The system can be accessed by students on their own schedule 24/7. It can efficiently scale to reach large numbers of students, and it gets smarter over time.

Through an experimental study, we found that students planning to go to GSU who received Pounce outreach completed their required pre-matriculation tasks and enrolled on-time at significantly higher rates than those who received GSU's standard outreach. Pounce reduced GSU's summer melt by 21%. These impacts mirror previous summer melt interventions but with far fewer staff.

Beyond the success of this trial at GSU, the work has broader implications for the use of AI within institutions. First, AI can change an organization's relationship with its employees, clients, or customers from reactive to proactive. Summer melt represents a process that most colleges and universities address reactively. Their data systems note whenever students have lost track of one of the countless required bureaucratic steps and deadlines: paying bills, registering for classes, applying for financial aid, and on and on. Schools know which students have completed which requirements, but lack knowledge about what fiscal, behavioral, or informational barriers block further progress. An AI system can figure out which students need a simple reminder, further identify who needs detailed instructions, and provide a mechanism for others to reach out with questions. Thus, a thoughtfully designed AI system can allow an institution to become proactive instead of waiting for problems to arise. For Pounce, or any other AI system designed for human idiosyncrasies, handling this range of needs is essential.

Second, somewhat paradoxically, we found that AI-enabled communication systems can also make students more proactive. As Pounce pinged students with questions and reminders, the outreach primed students to think of and ask other questions that had been on their minds. Thus, the system provided students with a nudge to ask whatever they may have been worrying about and opened a new channel of communication. A key goal for an educational system — and most companies — is encouraging students (or employees) to take proactive steps to solve small challenges before they become big problems. Thus, a collateral benefit of support from Pounce was that as students were primed about certain tasks, they became more agentic in tackling other important tasks to prepare themselves for college.

Third, institutions that are savvy about using individualized data proactively and who create more proactive constituents can pursue core goals more effectively and efficiently. When institutions reach out to their employees, clients, and customers to make them better at completing tasks essential to their roles, the improved performance, in turn, can help the institution. Pounce helped GSU students manage a number of distinct tasks more successfully. This support boosted student enrollment (and therefore revenue) for the institution and likely engendered goodwill among students — who we suspect were happier to receive support to hit deadlines than to be assessed penalties for missing them. By spending less time and effort getting students matriculated at GSU, Pounce freed the institution's and the students' resources to enable greater focus on teaching and learning goals.

Combining data integration with artificial intelligence in the form of virtual assistants, such as Pounce, holds promise for sectors like education that rely heavily on communication. Of students who completed high school in 2014, for example, [68% — some two million individuals — transitioned](#)

[directly to postsecondary education](#). The matriculation process and its corresponding challenges remain reasonably consistent over time. Thus, artificially intelligent systems such as Pounce have the potential to provide these transitioning students with personalized support to stay on track while not burdening universities with excessive costs or demands for staff time. Rather, this system minimizes the need for staff to respond to common questions, so that they can instead devote their time more fully to those issues that only humans can solve.

Further, AI systems that can be responsive to human changes in wants, needs, and feelings show substantial promise well beyond higher education. Just about any company with an on-boarding process to orient new employees will face similar tasks in which some employees need assistance while others feel confident that they can manage on their own. Businesses which have customers or clients with idiosyncratic needs may similarly benefit from AI systems that can tailor outreach and respond to incoming queries. In such cases, individualized, proactive outreach to support employees or clients is likely to make these constituents more proactive in ensuring that their own needs and questions are addressed. Thus, the foundation for a proactive feedback loop will be established — a genuinely intelligent move for any institution.

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