

## **Enhancing International Education with Generative AI: From Recruitment to Academic and Cultural Support**

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### **ABSTRACT**

*This study explores the potential of Generative Artificial Intelligence (GAI) to enhance U.S. higher education's competitiveness in attracting international students (over 1 million in 2022-23). By streamlining admissions, personalizing academic support, and fostering cultural integration, GAI can improve student experiences. Automating admissions, offering real-time application guidance, and providing language translation are highlighted as potential applications. Additionally, data-driven recruitment strategies powered by GAI are explored.*

**Keywords:** AI-powered language translation, Generative AI, international student recruitment, international student support, personalized learning, predictive analytics in education

### **INTRODUCTION**

For more than a century, the United States has been a global leader in higher education. In the 2022–23 academic year, over one million international students from over 210 places of origin enrolled in U.S. colleges and universities. This represents a 12 percent increase compared to the previous academic year (Institute of International Education [IIE], 2023). The excellence of our higher education system has always been a significant advantage for America, drawing talented individuals from all over the world and benefiting everyone in our nation. International student enrollment in the United States has been a

significant aspect of higher education, with the country being a prime destination for students worldwide. International students enrich domestic universities by enhancing cultural diversity, facilitating cross-cultural communication, and contributing significantly to the host country's economy through tuition and living expenses (Van-Damme, 2017). They also bolster the campus workforce, often taking on assistantship roles that support academic and operational functions within universities. International students can become ambassadors for their institutions, attracting more students from their home countries through positive word-of-mouth and personal success stories (Rao, 2016).

While the U.S. remains a top choice for global education, it faces strong competition from other countries – Canada, the U.K., and Australia. These nations are becoming increasingly popular destinations for international students because of their favorable immigration policies and robust educational infrastructures (Carson, 2024). To remain competitive with other countries, U.S. higher education institutions should streamline their admission processes and provide comprehensive academic and support services to facilitate an easy transition for students into their new learning environments, including language and cultural adaptation. Integrating AI into these processes can significantly enhance efficiency and effectiveness. Generative artificial intelligence (GAI) can help colleges and universities reach these objectives by automating admission processes, customizing academic assistance, offering instant language translation services, and assisting in cultural assimilation. In doing so, it can facilitate seamless adjustment and enhance the overall experience of international students.

### **What is Generative Artificial Intelligence**

Generative AI encompasses a category of AI algorithms designed to produce new outputs based on the data they have been trained on. This involves the use of a deep learning technique known as generative adversarial networks (GANs), which can be applied in various fields, such as creating images, text, and audio (Routley, 2023). While there are legitimate concerns regarding the impact of AI on the job market, the potential benefits include freeing up time for faculty and staff to engage in more creative and value-adding tasks.

Although the use of generative AI is prevalent and evolving for all kinds of students, there is a lack of research on the specific application of generative AI for international students in the U.S. context. This paper adopts a practitioner approach, offering guidelines on the use of generative AI to support international students. Throughout this paper, the terms "generative AI" and "AI" are used interchangeably, as generative AI is a subset of AI. It is essential to note that the AI apps mentioned in the following paragraphs are used to explain what institutions currently do in AI for the international education arena. The AI applications mentioned in the following sections are used for illustrative purposes, demonstrating how institutions currently employ AI in the international

education arena. These examples do not promote any specific product or service. Many other available AI tools also have valuable applications in this context (Chen et al., 2020).

## **AI in the Recruitment and Admissions of International Students**

### ***Application and Admission Processes***

AI-powered chatbots and virtual assistants can potentially enhance the application and admission processes for international students. These tools can provide real-time assistance to prospective students by guiding them through the application process, answering their queries, and ensuring that they complete all necessary steps. Lund et al. (2023) highlighted that chatbots can handle routine inquiries and free staff to focus on more complex issues, thus improving overall efficiency. When evaluating international student applicants, AI's support in researching the credentials and curricula of overseas high schools has the potential to streamline the evaluation process.

### ***Personalized Recruitment Campaigns***

Generative AI may play a key role in creating personalized recruitment strategies for international students. By analyzing vast amounts of data, AI can provide universities with insights into prospective students' preferences, study patterns, and cultural backgrounds. This allows institutions to craft tailored recruitment campaigns that resonate deeply with potential students, increasing engagement and application success rates. For instance, Taylor University partnered with Salesforce to gather and use data to target specific student populations effectively, enhancing their recruitment efforts. AI has the capability to process extensive datasets to discern trends and patterns that can enhance recruitment strategies. For example, predictive analytics can enable universities to direct their recruitment efforts more efficiently by pinpointing regions or countries with high potential for student enrollment (Cho & Heron, 2015).

### ***AI-Powered Chatbots***

AI-powered chatbots have revolutionized communication and support for prospective international students. Recent advancements in Artificial Intelligence (AI) and machine learning have facilitated the growing use of chatbots in language learning, with existing research primarily examining chatbot accuracy and chatbot-human communication from the viewpoints of students and in-service teachers (Beida-Medina & Calvo-Ferrer, 2022). These sophisticated tools mimic human conversation, providing prompt and effective responses to inquiries. They offer multilingual support and are available 24/7, ensuring that time zone differences do not hinder communication. Georgia State University's chatbot, "Pounce," has significantly improved student engagement and reduced "summer melt" by guiding students through the application process.

### ***Data-Driven Prediction Analytics***

Predictive analytics, powered by generative AI, have transformed student recruitment by enabling universities to make data-driven decisions (Cho & Heron, 2015). AI can predict student behavior by analyzing historical data, such as application likelihood and program completion probability. This helps universities allocate resources more effectively and refine their recruitment strategies. Institutions such as the University of Oklahoma and Florida International University use predictive analytics to support student retention and improve graduation rates.

### ***Application Evaluation***

Generative AI enhances the application evaluation process by automating the assessment of qualifications and predicting student success. AI algorithms can efficiently handle large application volumes, ensuring a consistent and fair selection process. For instance, the University of Edinburgh has significantly reduced admission staff workload by using AI to screen applications. AI also aids in grading essays, conducting virtual interviews, and analyzing candidates' communication skills and emotional intelligence.

## **Academic Support for International Students**

### ***Personalized Learning***

The ability of AI to analyze individual learning patterns allows it to offer personalized educational experiences tailored to each student's needs (Chen et al., 2020). For example, adaptive learning systems can adjust the content and difficulty of lessons based on the student's progress, ensuring that they receive the level of challenge and support they need. This personalized approach can benefit international students with diverse educational backgrounds and learning styles (Russell & Norvig, 2010).

### ***Language translation and tutoring***

Language barriers are a significant challenge for many international students (Oduwaye, Kiraz, & Sorakin, 2023). Many international students are required to pass an English proficiency examination for admission and visa purposes. However, research has shown that despite passing these exams, international students in the USA still face academic-related language challenges upon arrival. A significant part of this struggle involves understanding and keeping up with the local accent used in the host country (Park et al., 2017). AI-powered translation tools and language learning apps can help bridge this gap by providing real-time translations and language support. According to Tsai (2019), tools such as Google Translate have positively impacted international students' ability to understand and produce advanced-level English, improving their

academic performance. In addition to translation services, AI-powered tutoring systems can provide targeted academic support. These systems can offer personalized feedback on assignments, help students understand complex concepts, and provide additional practice opportunities tailored to their needs (Rus et al., 2013).

### ***Cultural Integration***

International students often experience cultural shock as they navigate the sociocultural challenges of adapting to a new environment (Oduwaye, Kiraz, & Sorakin, 2023). Leaving their home countries for the first time, international students often become accustomed to a specific way of life. Upon arrival, they must integrate into their host country's unfamiliar culture, encountering significant differences in values, attitudes, habits, and ways of thinking. This exposure to radically different cultural norms can be a source of stress and adjustment for international students (Oduwaye, Kiraz, & Sorakin, 2023).

AI-powered cultural education programs can help students better understand the cultural differences and nuances in communication styles, allowing them to adapt more effectively to their new academic environment. AI can also support the cultural integration of international students. Chatbots and virtual assistants can provide information about local customs, cultural events, and social opportunities, helping students feel more connected to their new environment. This support can enhance their overall experience and contribute to their academic success (Sánchez et al., 2006).

### ***Remote Learning***

AI-powered virtual classrooms have removed barriers to learning opportunities, such as national and international borders, enabling global access to education through online and web-based platforms supported by video conferencing, collaborative tools, and automated attendance tracking (Chen et al., 2020). These technologies enable real-time interactions between students and educators, fostering cross-cultural relationships and global learning. Students worldwide can now pursue education without being constrained by location, promoting accessibility and inclusivity (Lund et al., 2023). This shift supports remote learning experiences, enhances student engagement, and facilitates teamwork, thus bridging geographical gaps and providing opportunities for students in remote or underserved areas (Lund et al., 2023).

## **Challenges and considerations**

### ***Privacy and ethical concerns***

The use of AI in education necessitates the collection and analysis of extensive amounts of personal data, which introduces significant privacy and

ethical concerns. Higher education institutions must ensure that data collection and usage comply with relevant privacy laws and ethical guidelines. According to Holmes and Tuomi (2022), universities should actively define the usage and scope of AI to ensure that it benefits all students and does not compromise their privacy or security.

### ***Bias and Inequality***

Training AI systems on biased data can lead to biased outcomes. If not carefully managed, AI has the potential to reinforce and even exacerbate existing inequalities in education. For instance, AI-powered language tools may need help with accents and dialects, leading to misunderstandings or miscommunication. This underscores the urgent need for universities to be vigilant in monitoring and mitigating these biases to ensure that AI benefits all students equally (Seldon & Abidoye, 2018). Liang et al. (2023) caution us about a potential bias in GenAI text classifiers like Turnitin, which often misclassify non-native English writing as AI-generated, while accurately identifying native English samples. If this bias is not addressed, it could lead to increased frictions and unfair treatment of international students.

## **CONCLUSIONS**

Universities must become more knowledgeable about international students' adjustment issues and implement support services to sustain their valuable educational and economic contributions to higher education institutions in the USA. Generative AI holds the potential to enhance international student recruitment and admissions processes. It can do so by creating personalized recruitment campaigns, improving communication through AI-powered chatbots, leveraging data-driven predictive analytics, and automating application evaluation. This comprehensive approach can streamline administrative tasks and provide tailored support to prospective students, ultimately making the recruitment and admission processes more efficient and effective. Despite these challenges and ethical considerations, the responsible implementation of AI can lead to more efficient, fair, and effective recruitment strategies, ultimately benefiting both universities and prospective international students.

Integrating generative AI in higher education holds great promise for enhancing international students' recruitment, admission, and support. By leveraging AI capabilities, universities can streamline administrative processes, provide personalized academic support, and facilitate cultural integration. However, we must address the associated challenges and ensure the correct implementation of AI to maximize its benefits and minimize its risks. With

careful consideration and ethical use, AI can play a transformative role in international education, supporting students' academic success and enriching their overall experience.

## REFERENCES

- Belda-Medina, J., & Calvo-Ferrer, J. R. (2022). Using Chatbots as AI Conversational Partners in Language Learning. *Applied Sciences*, *12*, 8427. <https://doi.org/10.3390/app12178427>
- Carson, R. (June 6, 2024). Seizing the opportunity: enhance US competitiveness for international students. Retrieved from <https://thepienews.com/seizing-the-opportunity/>
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, *8*, 75264–75278. <https://doi.org/10.1109/ACCESS.2020.2988510>
- Cho, M. H., & Heron, M. L. (2015). Self-regulated learning: The role of motivation, emotion, and use of learning strategies in students' learning experiences in a self-paced online mathematics course. *Distance Education*, *36*(1), 80–99. <https://doi.org/10.1080/01587919.2015.1019963>
- Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education*, *57*(4), 542–570. <https://doi.org/10.1111/ejed.12533>
- Institute of International Education. (2023). Open Doors Report on International Educational Exchange. Retrieved from <https://opendoorsdata.org/annual-release/international-students/#:~:text=%E2%80%9COver%20one%20million%20international%20students,century%2C%E2%80%9D%20said%20Allan%20E.>
- Liang, W., Yusekgonul, M., Mao, Y., Wu, E., & Zou, J. (2023). GPT detectors are biased against non-native English writers. arXiv. <https://doi.org/10.48550/arXiv.2304.02819>
- Lund, B. D., Wang, T., Marengo, A., Pagano, A., Mannuru, N. R., Teel, Z. A., & Pange, J. (2023). Exploring the potential impact of artificial intelligence (AI) on international students in higher education: Generative AI, chatbots, analytics, and international student success. *Applied Sciences*, *13*(6716). <https://doi.org/10.3390/app13116716>
- Oduwaye, O. K., Kiraz, A., & Sorakin, Y. (2023). A trend analysis of the challenges of international students over 21 years. *SAGE Open*.
- Park, E., Klieve, H., Tsurutani, C., & Harte, W. (2017). International students' accented English—communication difficulties and developed strategies.

- Rao, P. (2016). Learning challenges and preferred pedagogies of international students: A perspective from the USA. *International Journal of Educational Management*, 31(7).
- Routley, N. (2023, February 6). What is generative AI? An AI explains. Visual Capitalist. <https://www.visualcapitalist.com/what-is-generative-ai-an-ai-explains/>
- Rus, V., D’Mello, S., Hu, X., & Graesser, A. (2013). Recent advances in conversational intelligent tutoring systems. *AI Magazine*, 34(3), 42–54. <https://doi.org/10.1609/aimag.v34i3.2485>
- Russell, S. J., & Norvig, P. (2010). *Artificial Intelligence: A Modern Approach*. Prentice Hall.
- Sánchez, C. M., Fornerino, M., & Zhang, M. (2006). Motivations and the intent to study abroad among U.S., French, and Chinese students. *International Journal of Educational Management*, 20(2), 142-163. <https://doi.org/10.1108/09513540610646152>.
- Seldon, A. & Abidoye, O. (2018). *The Fourth Education Revolution*; University of Buckingham Press: London.
- TSai, S. C. (2019). Using Google Translate in EFL drafts: A preliminary investigation. *Computer Assisted Language Learning*, 32(5), 510–526.
- Van-Damme, D. (2017). OECD education and skills today. <https://oecdeditoday.com/who-benefits-when-internationalstudents-pay-higher-tuition-fees/>

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