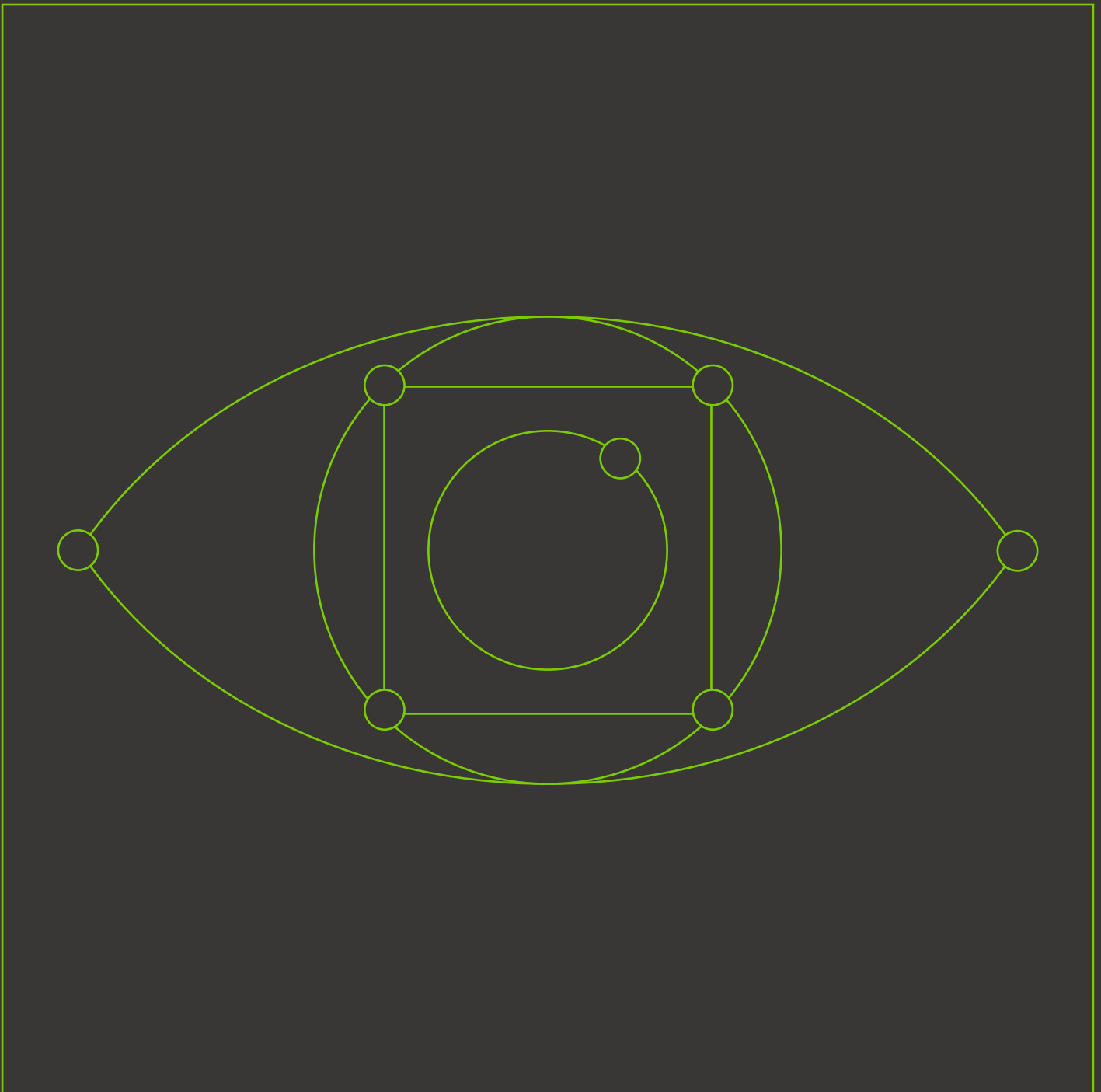


# AI in Business Education

## IE University



**GMAC™'s AI in Business Education case study series spotlights the integration of artificial intelligence in graduate management education, focusing on curriculum development, administrative processes, and strategic applications.**

IE University was founded 50 years ago by a group of ambitious entrepreneurs who came together with a single mission of reinventing education. At the heart of their mission is a core value of embracing a culture of innovation and technical immersion that drives them not just to ensure course content is up to date and 'future-focused' but that their programs incorporate the latest technologies and innovations into their methodology. IE University was already one of the early adopters of augmented reality (AR) and virtual reality (VR) into their campus experience, so with the arrival of the latest developments in artificial intelligence (AI), the university was keen to be one of the first to integrate the new technology into their programs.

## A summary of success

### The Context:

An institutional approach to using AI to augment the existing capabilities of educators and learners to provide a more personalized and effective educational ecosystem.

### The Innovation:

A unique IE-built 'Artificial Intelligence Tutor' developed using a combination of different large language models (LLM) which are able to proactively summarize large quantities of study resources and books to provide learners with an interactive and proactive tutoring experience that identifies the individual learning needs of each student.



*“Artificial Intelligence (AI) is reshaping our world, heralding a paradigm shift in how we live, work, and learn. We stand on the brink of a revolution comparable to the advent of the steam engine or the launch of the internet. AI technologies are taking the world by storm, leaving no leaf unturned also in the evolving educational landscape. As a result, the learning experience we provide is being transformed to meet the new needs and expectations of both students and their future employers.”*

Begoña González-Cuesta  
Dean of Education & Academic Experience  
IE University



IE University set themselves the challenge of “Augmenting the Educational Ecosystem with AI.” This involved leveraging artificial intelligence to create augmented teaching and learning experience for professors, students, and professionals within the university:

**Augmented Professor** – The concept of the “Augmented Professor” leverages AI to extend the capabilities of educators, enabling them to provide more personalized, engaging, and effective instruction. AI tools can analyze vast amounts of data to identify students’ learning patterns, preferences, and challenges, allowing professors to tailor their teaching strategies to the individual needs of each student. Moreover, AI can automate administrative tasks, freeing educators to focus more on pedagogical innovation and direct student engagement. The augmented professor is, therefore, not replaced by AI but is empowered to achieve higher levels of teaching excellence and student interaction.

**Augmented Student** – For the student, AI promises a personalized learning journey, where educational experiences are tailored to their unique learning styles, pace, and interests. This “Augmented Student” benefits from AI-driven platforms that offer customized content, adaptive learning paths, and immediate feedback, making learning more engaging and effective.

**Augmented Professional** – The ultimate goal of augmenting professors and students is to cultivate “Augmented Professionals” who are well-equipped to navigate the complexities of the modern workforce. AI in education ensures that learners develop not only technical skills relevant to their fields but also the soft skills critical for success, such as adaptability, critical thinking, creativity, and collaboration.

By integrating AI into their educational strategies, IE aim to prepare professionals who are innovative, agile, and capable of leveraging technology to solve future challenges.

# Strategy and planning

IE University's strategy was multifaceted, focusing on the personalization of learning experiences, the radical transformation of teaching methodologies, and the internal use of AI tools for assessing student performance. This comprehensive approach was designed to ensure that students not only acquired knowledge but also developed the critical competencies and mindsets needed for the future. Central to this strategy was the deployment of an AI Tutor to complement, not replace, the roles of educators and learners.

In order to identify suitable pilot groups and programs, the team at IE looked for

- Large scale, online programs to gain greater feedback, engagement, and ease of integrating into the study experience
- Programs relying exclusively or predominantly on IE faculty-created content specifically to address copyright concerns
- Programs with a focus on technology subjects
- Due to the nature of GenAI support, programs with larger focus on essay based assignments
- Involvement of faculty who were early adopters of the new technology

Using this set of guidelines, the team were able to focus specifically on B2B programs within the custom Executive Education portfolio where a number of large scale, online programs made for suitable candidates. Early trials were then rolled out at the IE Business School, the Law School and the Global Public Affairs School.



# Framing the project

Imagine a participant within an online executive program, managing a full-time job, family commitments, and participating in an intensive executive program at one of the worlds leading business schools. There will be concepts, frameworks, and information delivered and discussed in depth. Each participant will consume at different speeds, will have different starting points and backgrounds, and will therefore need different levels support. This is the age-old dilemma for any teacher faced with a diverse class of different backgrounds: how can they ensure each student has a personalized and proactive learning experience that helps them fill in their personal knowledge gap?

The team at IE decide not just to provide a knowledge repository and a reactive chat tool, but to go a step further and provide a proactive AI interface that doesn't just respond to questions but also anticipates what additional information might be helpful for the student. If the AI detects that the student lacks a clear understanding of the overall topic, it can proactively offer summaries or additional explanations to fill in the gaps.



# AI implementation

The approach taken by the team at IE was to develop an advanced AI tool, an innovative ‘Artificial Intelligence Tutor’ which would be accessed through the learning management system (LMS) at natural points within a student’s study journey. The tool would be trained on course documentation, including books, curricula, and course materials, as selected either by the program director or individual professors.

Although a key AI model used is OpenAI’s GPT-4, the tool uses a combination of models allowing for the relevant model to be used for certain specific requests. For example, the DaVinci LLM has been integrated in order provide concise answers to more complex tasks, and GPT4 with Vision so that the tool has the ability to include and reference images from the source material. If a student asks a question that is better explained with visual aids, the tool can include relevant images from textbooks or other resources. This enriches the answers and makes the learning experience more dynamic.

An important feature of the AI Tutor was its proactive nature, both in the ability to proactively recommend additional information to support assessed gaps in a student’s knowledge, but especially in the pre-processing of large quantities of data before answering queries. The specialized focus of the AI Tutor allowed for the analysis and summarizing of entire books or multiple books. In this way, instead of limiting itself to a handful of related concepts, it is able to provide comprehensive answers and suggest workflows or summaries that give students a broader understanding of the topic.

*“Our strategy is to integrate AI seamlessly into our Learning Management Systems, providing personalized support and feedback to students. By proactively anticipating their needs, the AI enhances learning experiences with comprehensive answers and relevant resources. Our goal is to save time for both students and professors, allowing them to focus on building stronger human relationships and engaging in meaningful interactions.”*

Francisco Luis Machin Aragonés  
Chief Data & Analytics Officer  
IE University



# Challenges and solutions

## 1. Hallucinations

To mitigate the risk of AI “hallucinations” — instances where AI generates responses based on incorrect or nonexistent information — the IE University team has implemented stringent content controls. By carefully curating the information fed into the AI tutor, they ensure that the feedback and resources provided to students are accurate, relevant, and aligned with educational goals.

## 2. Faculty Engagement

The strategy at IE University focused on working initially with early adopters of GenAI in their teaching, however the institution recognized that a broader approach was necessary. Teams of academics and pedagogists are working to adapt programs, curriculums, and formats to the latest developments in AI. They are analyzing the impact of AI on the job market and designing new content, materials, and methodologies that respond to that impact. Most importantly, IE University is developing training programs for faculty, so that they understand how to best harness the power of AI to enhance the learning experience.

## 3. Copyright

To address copyright issues, IE’s tool uses only documents created by their faculty at present. The tool is applied to proprietary content, ensuring compliance and avoiding legal complications. For broader use, they focus on materials generated internally, such as professors’ notes and official course content, to guarantee that all utilized resources are either owned by the institution or legally permissible for use. This careful management ensures the tool operates within copyright regulations.

## 4. Multiple Learning Management Systems (LMS)

The broad range of programs and study formats at IE University involves several different LMS, each chosen to suit a specific portfolio. Across the schools trialling the new AI Tutor, Canvas, Blackboard, and Open EdX were all in use. The development team focused on a single AI solution that was able to integrate with any LMS system working with program teams to decide how and where in each instance the tool could be accessed by users.



# The future of AI at IE University

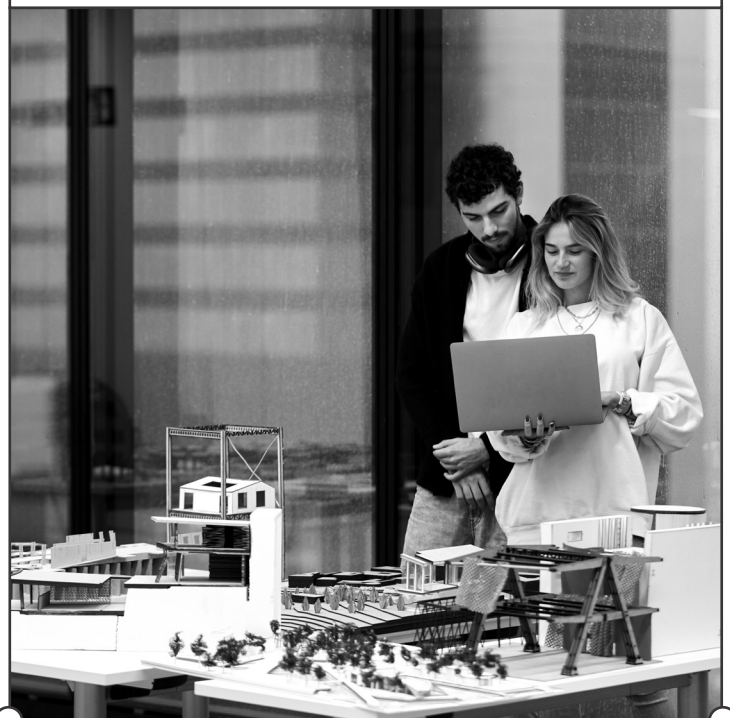
The strategy at IE University not only focuses on revolutionizing the teaching and learning experience but also transforming the whole institution and ensuring that their institution remains at the forefront of innovation.

The future of AI at IE University involves expanding its use across various departments to save time and improve human interactions. They plan to integrate AI more deeply, supporting both academic and administrative processes. For example, existing projects are already underway to use AI in managing IT requests, enhancing customer service through a chatbot that retrieves information from the school's many websites, and improving lead conversion rates by interacting with prospective students.

By leveraging AI, IE University aims to create a more efficient and engaging educational environment. Their long-term vision is to build stronger relationships between students and professors, allowing them to focus on meaningful interactions while the AI handles routine tasks. This human-centric approach to AI integration sets the foundation for a more dynamic and responsive educational experience.

*It will allow our students to cultivate higher-order skills such as creative thinking, empathy, critical analysis, and ethical decision-making.”*

Begoña González-Cuesta  
Dean of Education & Academic Experience  
IE University





Authored by Oliver Matthews.  
Editors – Nalisha Patel and Andrew Walker

© 2018–2024 Graduate Management Admission Council (GMAC™).  
All rights reserved.

The trademarks referenced herein are owned by the Graduate Management Admission Council or its subsidiaries in the United States and other countries. Notwithstanding the foregoing, any third-party trademarks referenced remain the property of their respective holders, and their use does not imply any affiliation, sponsorship, or endorsement unless otherwise stated. Please reach out to [legal@gmac.com](mailto:legal@gmac.com) for written permission to reproduce, store, distribute, transmit, or otherwise use this publication.