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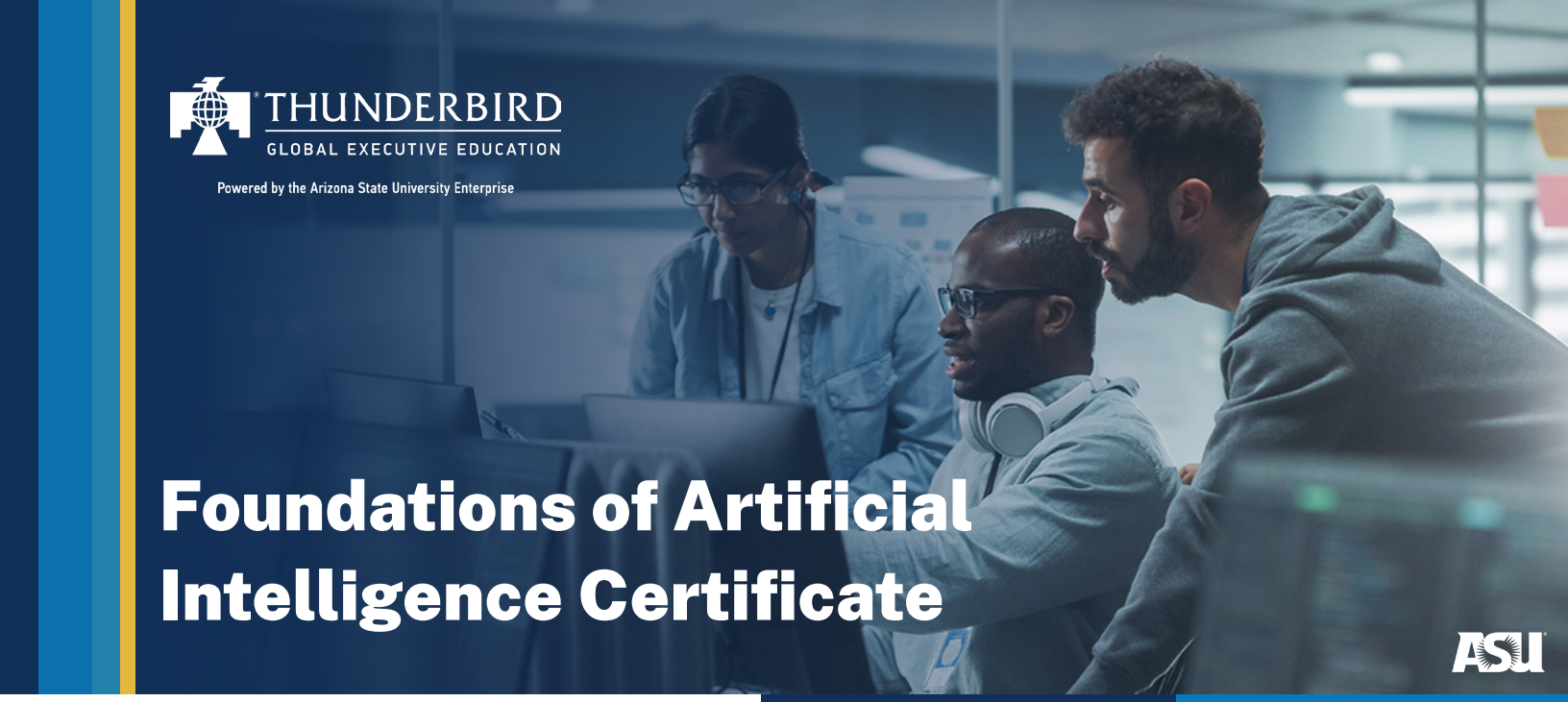

Foundations of Artificial Intelligence Certificate

ASU

Certificate Overview

Artificial Intelligence (AI) is becoming the "everything technology," and recent advancements in the field have accelerated its progress significantly. It is essential to gain an understanding of AI and anticipate the capabilities of future AI systems in the near-term for various reasons, including national security and defense, business strategy, and even job security.

Thunderbird School of Global Management's Executive Certificate in Foundations of Artificial Intelligence, offered in partnership with Gladstone AI, provides a no-math, no-code introduction to the new era of AI that has produced tools like Chat GPT, Bing Chat, and Stable Diffusion. Course faculty are world-leading experts in technical AI safety and AI policy, who collaborate with researchers at the world's top AI labs, have briefed senior members of U.S. and Canadian cabinets on AI risk, and train senior U.S. defense and national security officials in AI.

Upon completion of the certificate, you'll gain a "gears-level" understanding of AI thanks to battle-tested, math-free explanations that leave you thinking about AI like an engineer. Learn about the trends behind cutting-edge AI research, their strategic implications for businesses, governments, and militaries, and some of the opportunities and risks that are rapidly emerging from what is poised to become the most important technology of the 21st century. Additionally, you'll learn the principles that can empower organizations to navigate the new era of AI successfully.

The Executive Certificate in Foundations of Artificial Intelligence is awarded to those who complete the Foundations of AI course.

Online

On-Demand

$1,500
Total cost of certificate

Executive Certificate

Full tuition cost (USD)
$1,500; other fees may apply

Thunderbird School of Global Management
#1 in the world for international trade
ASU ahead of Cambridge, Stanford and Harvard
– QS International Trade Rankings, 2023

#1 in the U.S. for innovation
ASU ahead of MIT and Stanford
– U.S. News & World Report, 8 years, 2016–2023

BEST COLLEGES U.S.News MOST INNOVATIVE 2022-2023

Who should attend?

- Aspiring global professionals with strategy, problem-solving, and decision-making responsibilities.
- Leaders looking to gain a competitive edge by understanding how AI can be leveraged to automate processes or create new kinds of value for customers through next-generation, AI-first products.
- Executives learning how to manage the disruptions created by accelerating AI advances.

Learning outcomes

- Define the fundamentals of AI, and how it works, without using any math or technical jargon.
- Describe opportunities and new applications of AI, explore new applications of AI that only recently became possible, and examine examples of real-world use cases for those applications.
- Identify malicious and adversarial uses of AI, including super-scale spear phishing attacks, information operations, and cyberattacks enabled by new AI techniques.

Curriculum

Introducing the New Era of AI

In this module, we will take a bird's eye view of AI, and understand why the field fundamentally changed in 2020, making new applications possible that would have seemed like science fiction just a few years ago.

Datasets and Algorithms

In this module, we'll explore datasets and algorithms – the fundamental building blocks of AI systems. We'll look at what models and algorithms are, as well as what types of data exist. Finally, we will spend time learning about the different machine-learning tasks that we normally see in industry and research.

From Classic AI to Neural Networks

In this module, we'll complete our discussion of decision trees, and conclude our exploration of the era of AI 1.0. Then, we'll dive into neural networks, a new kind of AI model that's based on the structure of the human brain. We'll see how neural networks work, how they relate to the human brain, why they kicked off the AI 2.0 era, and how they're being applied today by companies like Netflix and OpenDoor.

AI for Vision

In this module, we'll be taking a closer look at deep learning strategies for vision. In the process, we'll uncover one of the most important properties of modern AI systems, a property that's shaped the corporate strategy of world-leading tech companies, and paved the way for the deep learning revolution of the AI 2.0 era. Additionally, we will learn about "transfer learning", and how this revolutionized the economics of AI.

Language Models

Of all the tasks you can get an AI system to master, text generation is likely the most valuable, and the most fascinating. AI models that learn to generate text are known as language models, and for reasons we'll be exploring in this lesson, language modeling turned out to finally offer a path beyond narrow AI: a way to build individual AI systems with a wide range of far more humanlike capabilities.

Foundation Models and Scaling

GPT-3 showed the world that AI systems can be made more general and capable simply via scaling, by using vast amounts of processing power and data to train gigantic models with a tremendous number of weights. There's no known theoretical limit to how far scaling can go. Here, we will explore the new wave of AI systems, as well as key considerations when using or building these systems.

Malicious Application of AI

In this module, we'll explore an important topic: malicious applications of AI and adversarial AI.

AI Accidents and AI Alignment

The problem of getting AI models to reliably generate the kind of output we want isn't restricted to language models; it's a universal feature of all AI systems. As those systems become more scaled and capable, it's a problem that will get worse, and not better. Ultimately, many frontier AI researchers believe that AI systems with advanced capabilities, but poorly controlled behavior may pose an unprecedented risk to global safety. In this module, we'll dive into what happens when AI goes wrong, and what the long-term outlook of AI accidents might be.

APPLY NOW

Thunderbird.asu.edu/executive-education

Contact us: +1 602-496-6920 | exec.ed@thunderbird.asu.edu

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