

Oxford Artificial Intelligence Programme

Explore the capabilities of artificial intelligence, and consider its ethical implications and potential applications for your business.

6 weeks, excluding 1 week orientation.

7–10 hours hours of self-paced learning, entirely online.

Start date: 18 Sep 2024 Course starts in 4 weeks

REGISTER NOW

Email: <u>oxfordonline@getsmarter.com</u>

Call: +44 1865 950 945



About this programme

Artificial intelligence (AI) is an exciting, highly debated field of research and practice that offers transformative potential across all sectors of the economy. It's a pervasive technology that has already spawned many disruptive innovations, fuelling often-inflated expectations of what it is capable of, now and in the future.

At the same time, the growing applications of AI have made society aware of both its inherent challenges and the ways in which it's starting to change the future of work across occupations. In order to understand AI and its true potential, people need to firmly grasp how this technology works and its implications for businesses. The Oxford Artificial Intelligence Programme from Saïd Business School, University of Oxford aims to provide you with a sound understanding of AI: its history, functionality, capabilities, and limitations.

Over the course of six weeks, you'll be exposed to empirical research and real-life case studies. On completion, you'll have developed an informed opinion about the possibilities AI holds, and be able to reflect on its ethical implications and potential applications in your organisation.



This Oxford Artificial Intelligence Programme is certified by the United Kingdom CPD Certification Service, and may be applicable to individuals who are members of, or are associated with, UK-based professional bodies. The programme has an estimated 60 hours of learning.

Note: should you wish to claim CPD activity, the onus is on you. Oxford Saïd and GetSmarter accept no responsibility, and cannot be held responsible, for the claiming or validation of hours or points.

Saïd Business School, University of Oxford Online				

"This [programme] is excellent value for money. Tuition is of the highest quality, teaching materials are well structured and organised, and the workload is manageable. It's one of the most satisfying courses I have done. I really encourage AI enthusiasts to enrol, learn, and enjoy it."

Dr Adolfo Paolini

Reader in Commercial Law at the University of Buckingham, and Consultant at Clyde & Co LLP

What this programme covers

The programme provides you with diverse insights and perspectives on the ethical, legal, and social considerations around AI so that you're equipped to critically appraise AI technologies. It also introduces you to AI mechanics and subdisciplines, including the different types of machine learning, deep learning, and neural networks. While you won't be expected to code, you'll still get the opportunity to learn about this field and develop a foundational understanding of how the technologies work. Ultimately, you'll assess all the opinions surrounding AI, and then be encouraged to develop your own views about its potential uses in industry and society as a whole, culminating in a business case for the implementation of AI in your organisation.

This programme forms part of the <u>Oxford Artificial Intelligence in Marketing Series</u> and the <u>Oxford Artificial Intelligence in Trading Series</u> from Oxford Saïd, where you can sign up for two programmes at a reduced rate and at dates of your choosing. You'll also earn an additional certificate upon successful completion of both programmes.



A powerful collaboration

Saïd Business School at the University of Oxford is collaborating with digital education provider GetSmarter, a 2U, Inc. brand, to create a new class of learning experience – one that is immersive, collaborative, and designed for optimal accessibility to the busy working professional.

About Saïd Business School, University of Oxford

Saïd Business School blends the best of new and old. Deeply embedded in an <u>800-year-old world-class university</u>, Oxford Saïd strives to educate people for successful business careers. As a community, Oxford Saïd seeks to use <u>business acumen</u> and global networks to address long-horizon phenomena like demographic change, new technologies, and natural resource scarcity. Oxford Saïd is committed to delivering cutting-edge education and ground-breaking research that transforms individuals, organisations, business practice and society.





Join the Oxford Executive Education Elumni LinkedIn Group*

This is an official Saïd Business School, University of Oxford, alumni group for all open, online, and executive programmes. You'll be able to network with past participants of other online and on-campus Oxford Saïd programmes, and gain first access to School news.

*Access to this group will only be granted following the participant's successful completion and passing of the programme.





About GetSmarter

GetSmarter, part of edX, partners with the world's leading universities and institutions to select, design and deliver premium online short programmes with a data-driven focus on learning gain.

Technology meets academic rigour in GetSmarter's people-mediated model, which enables lifelong learners across the globe to obtain industry-relevant skills that are certified by the world's most reputable academic institutions.

As a participant of this programme, you will also gain unlimited access to <u>edX's Career Engagement Network</u> at no extra cost. This platform will provide you with valuable career resources and events to support your professional journey. You can look forward to benefits including rich content, career templates, webinars, workshops, career fairs, networking events, panel discussions, and exclusive recruitment opportunities to connect you with potential employers.



What you'll learn

Orientation Module Welcome to your Online Campus



Module 1 Artificial intelligence ecosystem

Explore the history and potential of AI within the context of the digital ecosystem.

- Define AI
- Review the history and development of AI, and contextualise the technology in the emergent ecosystem
- Illustrate the nature of the different types of technologies and where AI fits in
- Analyse the trajectory and impact of different types of technologies in the digital ecosystem

Module 2 AI and machine learning: Understanding the black box

Delve into the mechanics of the three main types of machine learning: supervised, reinforcement, and unsupervised learning.

- Discuss how to link types of data and machine learning approaches to solve existing problems
- Recognise the different machine learning approaches used for different types of data
- Identify the workflow of supervised, reinforcement, and unsupervised learning
- Analyse the impact of human decisions in the machine learning workflow
- Evaluate the benefits and limitations of machine learning approaches within different contexts

Module 3 Understanding deep learning and neural networks

Understand what deep learning is and how it is powering the modern approach to AI.

- Identify the functionality of errors and weights in neural networks
- Determine the impact of backpropagation on neural networks
- Investigate different use cases of deep neural networks for making predictions and generating new content

• Assess the mechanics of machine learning algorithms, such as deep neural networks

Module 4 Working with intelligent machines

Explore the concept of intelligence in machines and the impact of AI in the labour market.

- Describe the different forms of intelligence and how they relate to the completion of tasks
- Analyse the ways in which the workforce interacts with machines based on varied forms of intelligence
- Determine the scope of change that AI will enable in the conventional workforce
- Recognise areas of greatest potential for AI in your organisation or an organisation of your choice

Module 5 The ethics of artificial intelligence

Explore the hierarchy of ethical and legal considerations around AI.

- Categorise the three pitfalls of AI
- Investigate the regulatory considerations of using AI
- Debate the sources of algorithmic bias
- Develop ethical principles for your organisation or an organisation of your choice to instil for its AI applications and plan for preventing bias

Module 6 How to drive AI in your business

Identify the potential business opportunities of AI in a specific context.

- Investigate the opportunities that AI offers an organisation across different sectors
- Formulate a business case for AI in your organisation or an organisation of your choice
- Debate the concept of the singularity within the current AI landscape

Who should take this programme

This programme is ideal for managers and business leaders across multiple industries who are looking to understand the potential of AI and its legal and ethical considerations. It's also designed for technical professionals, such as CIOs, IT managers, and business analysts, who want to discover how AI could be applied to benefit their organisations. This programme aims to bridge the gap between business and technology.

This programme is for you if you want to:



Add value to your business

Explore the possibilities of AI application in your organisation and build a business case for its implementation.



Acquire new knowledge

Develop a sound understanding of AI technology, including its evolution over time, its functionalities, its capabilities, and the limits inherent in its methods.



Expand your perspective

Analyse the ethical and legal considerations around AI, and learn how to prevent bias.

About the certificate

Upon successful completion of the programme, you'll receive a certificate of attendance from Oxford Saïd as powerful proof of the enhanced skills and thinking abilities you've developed.

Assessment is continuous and based on a series of practical assignments completed online. In order to be issued with a digital certificate, you'll need to meet the requirements outlined in the programme handbook. The handbook will be made available to you as soon as you begin the programme.

Your digital certificate will be issued in your legal name and sent to you upon successful completion of the programme, as per the stipulated requirements.

Who you'll learn from

These subject matter experts from Oxford Saïd guide the programme design and appear in a number of programme videos, along with a variety of industry professionals.

Your Programme Director



Matthias Holweg

American Standard Companies Professor of Operations Management, Saïd Business School, University of Oxford

Matthias is a trained industrial engineer and is interested in how organisations generate and sustain process-improvement practices. His research focuses on the evolution and adaptation of process-improvement methodologies as they are being applied across manufacturing, service, office, and public sector contexts. More recently, Matthias has started working on digital operations, with a particular focus on the economics of additive manufacturing (3D printing) in order to determine how to use this set of new technologies to generate competitive advantage. He also leads the Digitally Empowered Enterprise Lab at Oxford Saïd, which brings together the many strands of research within the School related to digital transformation.

Guest Experts

Andrew Stephen

Deputy Dean for Faculty and Research, L'Oreal Professor of Marketing, Saïd Business School, University of Oxford

Carl Benedikt Frey

Oxford Martin Citi Fellow

Charlotte Deane

Professor of Structural Bioinformatics, University of Oxford

Kenneth Cukier

Senior Editor, The Economist Associate Fellow, Saïd Business School, University of Oxford

Luciano Floridi

Professor of Philosophy and Ethics of Information, University of Oxford

Mari Sako

Professor of Management Studies, University of Oxford

Michael Osborne

Dyson Associate Professor of Machine Learning, Oxford Martin School, University of Oxford

Michael Wooldridge

Professor of Computer Science, University of Oxford

Min Chen

Professor of Scientific Visualisation, University of Oxford

Natalia Efremova

Lecturer in Digital Economy, Queen Mary University, London; Chief Technology Officer, Deep Planet

Nir Vulkan

Associate Professor of Economics, Saïd Business School, University of Oxford Director of the Oxford Fintech Programme and Algorithmic Trading Programme

Paul Newman

BP Professor in Information Engineering, University of Oxford Founder and CTO, Oxbotica

Sally Maitlis

Professor of Organisational Behaviour and Leadership, Saïd Business School, University of Oxford

Stephen Roberts

Royal Academy of Engineering / Man Group Professor of Machine Learning, University of Oxford

Teppo Felin

Associate Scholar, Saïd Business School, University of Oxford; Douglas D Anderson Endowed Professor of Strategy and Entrepreneurship, the Huntsman School of Business, Utah State University

Tim Morris

Professor of Management Studies, University of Oxford

Viktor Mayer-Schöenberger

Professor of Internet Governance and Regulation, University of Oxford

How you'll learn

Every programme is broken down into manageable, weekly modules, designed to accelerate your learning process through diverse learning activities:

- Work through your downloadable and online instructional material
- Interact with your peers and learning facilitators through weekly class-wide forums and reviewed small group discussions
- Enjoy a wide range of interactive content, including video lectures, infographics, live polls, and more
- Investigate rich, real-world case studies
- Apply what you learn each week to quizzes and ongoing project submissions, culminating in the development of a business case for the application of AI in your organisation or an organisation of your choice

Your success team

GetSmarter, with whom Oxford Saïd is collaborating to deliver this online programme, provides a personalised approach to online education that ensures you're supported throughout your learning journey.



Head Tutor

A subject expert who'll guide you through content-related challenges.



Success Advisor

Your one-on-one support, available during university hours (8am–5pm GMT) to resolve technical and administrative challenges.



Global success team

Available 24/7 to solve your techrelated and administrative queries and concerns. "AI is a fascinating technology that is entering every aspect of our work and daily lives. It improves existing products and processes, and also fosters disruptive innovation. We need to embrace it, while also defining its legal and ethical boundaries within our organisations, and society as a whole."

Matthias Holweg
Programme Director

Technical requirements

Basic requirements

In order to complete this programme, you'll need a current email account and access to a computer and the internet, as well as a <u>PDF Reader</u>. You may need to view Microsoft PowerPoint presentations, and read and create documents in Microsoft Word or Excel.

Browser requirements

We recommend that you use Google Chrome as your internet browser when accessing the Online Campus. Although this is not a requirement, we have found that this browser performs best for ease of access to programme material. This browser can be downloaded here.

Additional requirements

Certain programmes may require additional software and resources. These additional software and resource requirements will be communicated to you upon registration and/or at the beginning of the programme. Please note that Google, Vimeo, and YouTube may be used in our programme delivery, and if these services are blocked in your jurisdiction, you may have difficulty in accessing programme content. Please check with an Enrolment Advisor before registering for this programme if you have any concerns about this affecting your experience with the Online Campus.



Ready to start your learning journey?

REGISTER NOW

Your Privacy Choices

