



Artificial Intelligence and Data Science for Leaders

Building a Team for Success in an AI World



THE UNIVERSITY OF
CHICAGO



More and more companies are making use of artificial intelligence (AI) as a way of increasing productivity. But what exactly is AI and what are the current trends in data science and machine learning?

Artificial Intelligence and Data Science for Leaders

With a number of key issues driving the effectiveness and efficiency of AI, leaders are required to have current knowledge of trade-offs and developments for effective debate and decision-making.

Program Details

Tuition: USD \$2,500

Program Format: Remote learning with live, interactive sessions

Duration: Eight weeks

Language: English

Instructors: Dr. Greg Green, MS, PhD; Executive Director of Analytics Programs, University of Chicago

Dr. Nalini Polavarapu, MSc, PhD; Head of Data Science Strategy; Bayer Analytics Lecturer, University of Chicago

Dr. Utku Pamuksuz, MSc, PhD; Chief Data Scientist and Co-founder; Inference Analytics Analytics Lecturer, University of Chicago

About the Program

Our program explains the new technologies and tools required for your business as well as how to incorporate best practices from the discipline.

Over the eight-week period you will learn to distinguish between the myths, hype, and opportunities that data science presents for your business with statistical inference and machine learning, as well as emerging tools such as auto machine learning and AI.

You will learn to:

- Identify new skills and abilities that are necessary for your business.
- Develop a strategic plan to manage change within your team, function, or organization so that data science can be leveraged effectively both now and in the future.
- Identify the risks and rewards of embarking (or not embarking) on new data science projects.





Who Should Attend?

This program is for managers and leaders across different industries who want to increase their understanding of AI and those that work with technical teams, analytics groups, and other functions that leverage data science to create value for the business. Managers seeking to build and lead an AI-driven organization will also benefit from the program.

Connect with Expert Instructors

Courageous thinkers and passionate teachers, our instructors are an active community of scholars. Propelled by rigorous debate and cross-disciplinary collaboration, they produce ideas that matter and enrich human life.

Meet the Instructors



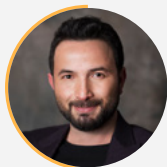
As Executive Director of Analytics Programs at the University of Chicago, Greg Green architects and leads programs that strategically apply analytics to solve complex industry problems with greater speed and impact.

Dr. Greg Green, MS, PhD; Executive Director of Analytics Programs, University of Chicago



Dr. Nalini Polavarapu leads Data Science Strategy for a global team of analytical and IT professionals at Bayer, specializing in machine learning, operations research and cloud analytics to deliver better products to market faster through data science. She also serves as the senior leader on the Data Science Center of Excellence Council partnering with other senior leaders enterprise wide to drive the efforts to realize the vision of transforming into a digital company through data science. Dr. Polavarapu has authored and co-authored several analytical patents, research articles in leading scientific journals, and co-authored book chapters on high throughput data analysis, and applications.

Dr. Nalini Polavarapu, MSc, PhD; Head of Data Science Strategy; Bayer Analytics Lecturer, University of Chicago



Dr. Utku Pamuksuz is an AI researcher with expertise in data science, business analytics, applied mathematics, and machine/deep learning. He has been an invited speaker including keynote sessions in academic and professional seminars in Europe, Asia, and the US, for application and development of data analytics in the areas of management, finance, strategy, healthcare, e-commerce and quantitative marketing. Dr. Pamuksuz has served as a Senior Data Scientist at State Farm as well as W.W. Grainger. He co-founded Inference Analytics in 2018.

Dr. Utku Pamuksuz, MSc, PhD; Chief Data Scientist and Co-founder; Inference Analytics Analytics Lecturer, University of Chicago

Why the University of Chicago?

Becoming a member of the University of Chicago community means gaining access to world-class instructors and a cohort of curious, diverse individuals.

Through a firm grounding in core principles and a rigorous approach to problem-solving, our teaching method—the Chicago Approach—will give you the tools you need to make sense of complex data and turn ideas into impact. Program participants will receive a certificate of completion and join a global network of thought leaders.

Approach to Remote Learning

Our remote learning programs are crafted to support your specific professional development goals. Programs combine e-learning with live, interactive sessions to strengthen your skill set while maximizing your time. We couple academic theory and business knowledge with practical, real-world application.

Through remote learning sessions, you will have an opportunity to interact with University of Chicago instructors and your peers.





Program Outline

The Artificial Intelligence and Data Science for Leaders program covers the following topics:

Module 1: Introduction to Leadership and Data Science

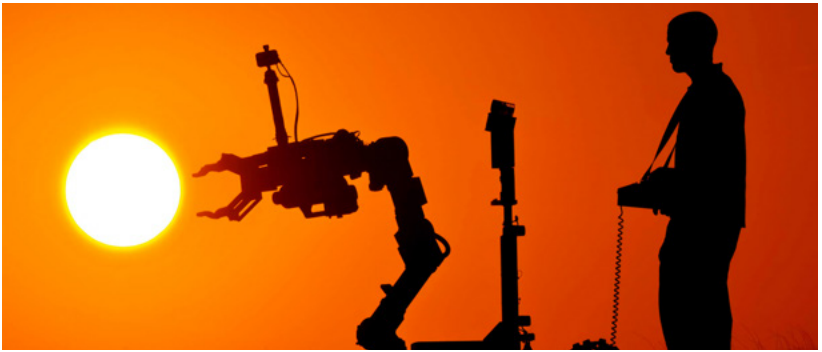
- Why is this program crucial for AI leadership?
- What is data science?
- Data science community of roles

Module 2: Data-Driven Decisioning and Leadership

- Leadership competencies
- The leadership pipeline
- Data-driven decisioning
- Business acumen

Module 3: Data as a Competitive Advantage

- The five drivers of business
- Developing business acumen
- Economic value estimation



Module 4: Machine Learning (ML) and Artificial Intelligence (AI)

- Data science and the big data picture
- AI and ML landscape and tasks
- Unsupervised learning: Descriptive cases and association rule
- Unsupervised learning: Recommendation systems
- Unsupervised learning: Data mining with pattern recognition and clustering
- Supervised learning: Classification and regression
- Reinforcement learning

Module 5: AI and ML as a Service

- Future of AI: Trends from 2020 to 2025
- Learning algorithms Part 1
- Learning algorithms in a wider spectrum: Part 2
- Overcoming challenges to use machine learning
- Model interpretation and assessment

Module 6: AI as a Service: Use Cases

- Adopting AI in healthcare
- Deployment
- Open source collaboration and AWS
- Data ethics and privacy



Module 7: AI Transformation—Building Teams and Organizations

- Team kick-off
- Needs assessment
- Building the team
- Giving an effective presentation

Module 8: Final Project—Growth as a Leader

- The problem
- Final project - task instructions

Program outline may be subject to change based on academic adjustments.

Learn more

To schedule an appointment with admissions, contact [**admissions@online.professional.uchicago.edu**](mailto:admissions@online.professional.uchicago.edu).

Visit [**online.professional.uchicago.edu**](https://online.professional.uchicago.edu) to learn more.