ASI DATA SCIENCE

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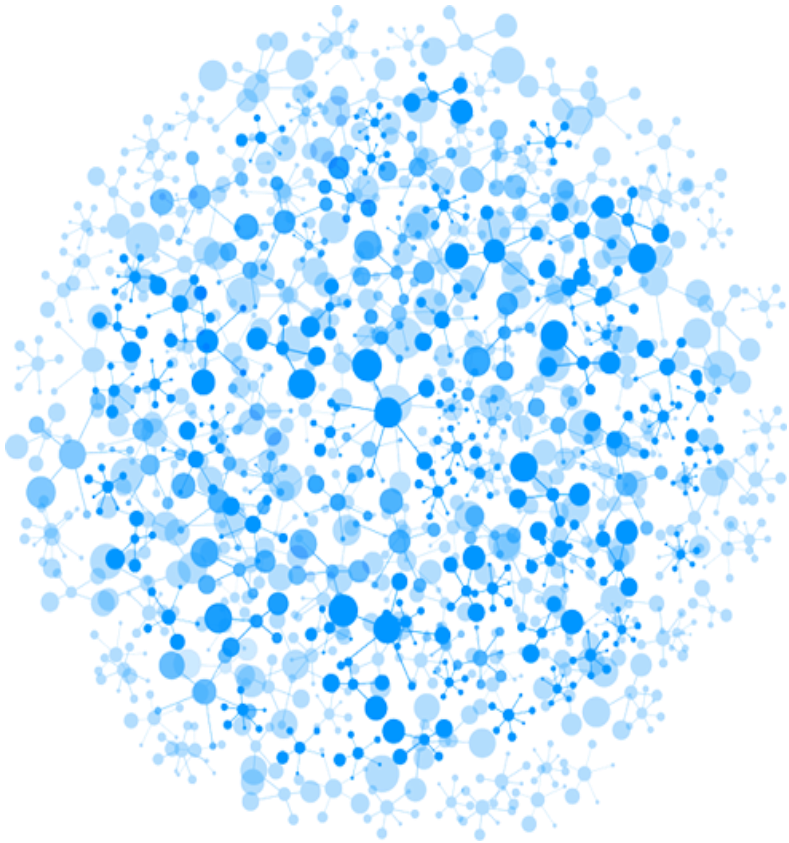
AI for Executives

A practical introduction to the key concepts and techniques of data science and machine learning



Materially beneficial corporate deployments of AI are beginning to proliferate. In this context, it is becoming increasingly critical that executive leadership has an adequate level of intuitive understanding of both the underlying techniques and a practical understanding of the "hows" and "whys" of their deployment.

While full artificial intelligence remains far off, the latest machine learning algorithms are making progress on problems that were previously thought as being the unique preserve of humans—tasks such speech and object recognition. This training helps demystify AI for executives, giving them the confidence and foundational knowledge needed to take advantage of AI within their own organisation. They leave with a fact-based perspective on AI that permits informed decision-making and risk assessment.

COURSE DESCRIPTION

The AI for Executives course provides you with a condensed introduction to the key concepts and techniques of data science and machine learning. It allows you to understand what is and what is not possible with these exciting new tools, along with how they can benefit your organisation. It gives you the language and framework to speak with both technical experts and other executives in order to facilitate the practical application of AI in your organisation.

WHO IS THIS COURSE DESIGNED FOR?

Board members and senior executives who are responsible, or may become responsible, for the sponsorship, oversight, and assurance of Artificial Intelligence projects and associated change within your organisation. The course is designed for between five and twelve participants, and therefore has a high level of interactivity and personalisation.

WHAT DO EXECUTIVES GAIN FROM THE COURSE?

At the end of the course, participants will have…

- an intuitive grasp of the nature of the machine learning techniques that underlie AI and a feel for their role in business,
- an appreciation of the business opportunities that AI represents, how others are capitalising upon them, and how their own organisation can do so,
- a robust understanding of the business risks that AI represents and how these can be managed,
- an appreciation of the business and technology capabilities required to "do" AI and a sense of where their organisation is today (and is heading) in terms of its own relative maturity.

COURSE SYLLABUS

The overall training programme is built as a tailored composite of four core modules:

Modules	Learning Objectives
Module 1 – How it Works *Introduction to AI and machine learning*	To achieve a level of intuitive understanding of how machine learning and AI work. This section will focus on examples and applications that are relevant to participants.
Module 2 – AI Opportunities & Risks *How to identify the right AI opportunities for your organisation?*	To achieve an appreciation of where in the business and operating model machine learning can be beneficial, and of the business risks that it may create. In this module, we move from the general to the particular of your own organisation.
Module 3 – A Good AI project *What makes a good AI project today and tomorrow?*	To achieve an appreciation of where to deploy machine learning and AI solutions, how and with what requirements of businesses. This section will explore opportunities related to current and future machine learning and AI techniques.
Module 4 – AI Capability *How to successfully manage an AI project and build internal capability?*	To understand the key skills, infrastructure, organisational models and data required to build a robust machine learning business capability. This section will include a description of a typical project lifecycle.

1. Introduction to AI - "How it Works"

- Definitions, historical context, present day usage, significance and urgence
- Simple machine learning models and business applications
- More complex machine learning models and business applications (e.g., self-driving cars, machine vision, natural language generation, etc.)

2. How to identify the right AI opportunities for your organisation?

- The five business opportunity areas e.g. enhanced "core" prediction, automation, customer propositions, commercialisation, disruptive competitive models
    - Real-world case studies of each
    - How to identify them in your organisation
- The winning strategic models and assets in a future where ML is widely deployed
- The top business risks posed by machine learning and how to assess and manage them:
    - Regulatory compliance and data security
    - Vendor selection and management
    - Data and models assets ownership
    - New competitor models

3. What makes a good AI project today and tomorrow?

- Model requirements e.g. training data, human intervention, exception processing
- Where to deploy, where not to deploy, limitations e.g. explicability constraints, automated decisions regulations, adversarial examples
- What the future holds e.g. key areas of today's R&D with the potential for transformative additional future impacts
- Examples of potential applications within your organisation and sector

4. How to successfully manage an AI project and build internal capability?

- Understanding the project lifecycle, typical timescales & common methodologies
- Data requirements (internal and external)
- Technology and infrastructure requirements (in-house vs. outsourced solutions)
- Scalability, operations and maintenance for AI models
- AI performance metrics

TIMETABLE

The course has been designed to fill one full day. Each module can be represented to a greater or lesser extent as required – with the learning experience becoming commensurately more or less immersive**.** The course can be supported with pre-course interviews to personalise the content.

	Day
Module 1 **How it Works**	1.5 hours Presentation-led instruction with Q&A
Module 3 **AI Opportunities & Risks**	2 hours Presentation-led instruction with Q&A
Module 2 **A Good AI project**	1.5 hours Presentation-led instruction with Q&A
Module 4 **AI Capability**	2 hours Presentation-led instruction with Q&A

PRICING & OPTIONS

Our pricing is consistent with industry benchmarks for corporate training. We account for the cost of program design and execution. Pricing will therefore depend on the level of customisation needed and the number of course participants.

One popular option is to include our **Enterprise Diagnostic** so that concrete opportunities are identified and assessed during the course of the training. We follow a 4-step approach that includes market research, company information analysis and team interviews to inform our diagnostic in advance of the training. We then use the key findings to inform the discussions on opportunities and risks during the training and develop recommendations and action plans post-training. We organise a wrap-up meeting so that you have clear next steps.

Step 1
Market Analysis of the latest machine learning deployments in your and related sectors

Step 2
Team Interviews and research to understand corporate context and AI / machine learning capabilities

Step 3
Training delivery incl. a presentation of the results from our diagnostic and a workshop on opportunities

Step 4
Wrap-up meeting to discuss the key outputs from the training/diagnostic and recommended next steps

INSTRUCTORS

Our instructors bring the appropriate blend of research, academic and business expertise to ensure that besides learning the core principles and latest innovations, the participants will be able to relate them to real business situations. The specific instructors will be confirmed prior to the beginning of the training and are likely to be drawn from the following professionals:

Prof. Petros Dellaportas is professor of statistical science at the University College London, professor of Statistics at Athens University of Economics and Business and faculty fellow of Alan Turing Institute, the UK's national centre for data science. His current research interests include theory and applications of Bayesian statistics, machine learning, statistical computation, financial econometrics and quantitative trading.

Dr Angie Ma is a co-founder and COO of ASI Data Science. She is specialised in managing complex data science projects and in vertical applications including healthcare, Internet of Things (IOT) and operations as well as implementation of large scale deployment. Angie is the programme director of Strata London conference, Europe's largest data conference, providing thought leadership in the data science landscape. Angie also delivers ASI and Ashridge Business School's training for executives and senior staff who lead AI and data science transformation and functions. She has a PhD in Physics in applied optics.

Dr. Tariq Khatri is a co-founder and Managing Director of Machinable where he helps clients keep abreast of the latest developments in machine learning research. Tariq has spent his management consulting career leading strategy and performance improvement engagements in areas where new technologies have had a major impact (in mobile telecoms, payments, digital advisory) and/or in highly analytical domains (e.g. quantitative risk management). He recently complemented his DPhil in Physics from Oxford with an MSc in Machine Learning from UCL. Tariq also holds an MBA from INSEAD.

Dr Alberto Favaro is a data scientist at ASI. He has worked on datascience projects in the energy, financial services and retail sectors. Hisareas of expertise include distributed computing for big data, deep learning, and Bayesian statistics. He has extensive experience using TensorFlow, Dask, and MongoDB. He was previously a theoretical physicist, and held research posts in the UK, at Imperial College London, and in Germany, at the Universities of Oldenburg and Cologne. His research was included among the 'Top 10 breakthroughs of 2011' by the magazine Physics World.

Nicolas Ponset is a co-founder and Managing Director of Machinable where he leads our client engagements from idea generation, to solution design and implementation. He brings 20 years of experience in strategy, performance improvement and data analytics across industry sectors. Nicolas founded Aleron Partners – a strategy and data analytics firm in 2010 after working 12 years in banking, consulting and technology at J.P.Morgan, Accenture and IBM. Nicolas graduated from Institut d'Etudes Politiques de Paris and holds an MSc in Economy & Corporate Finance and an MSc in Corporate Law.

Dr Aida Mehonic is a Principal at ASI. She specialises in the development of alternative data sources for financial market predictions. She has led data science projects for investment funds, central and local government and utility companies. Before ASI she spent four years working in quantitative roles in financial markets, most recently as a Macro Strategist at J.P. Morgan Investment Bank covering global credit markets in the top ranked team in Europe according to Institutional Investor. She holds a PhD in Theoretical Physics. Her research into the physics of tumour formation was published in Nature and she won a Bronze Medal at the International Physics Olympiad.

LOCATION

We can conduct training at your organisation's offices, or at ASI's offices at 54 Welbeck Street in London, a short walk from Bond Street tube station.

CONTACT

For more information about our training programs, please contact
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Phone: +44 (0)207 239 7900

ABOUT ASI DATA SCIENCE AND MACHINABLE

This training is delivered by **ASI Data Science** and **machinable** who have decided to combine their research and project delivery expertise to bring to board members and senior executives the latest developments and business applications in data science and machine learning.

ASI DATA SCIENCE

ASI work to bring the power of artificial intelligence within reach of everyone. We support organisations to hire people, grow their data science expertise, and make use of modern software tools to make the most of their data.

We have supported over 200 organisations across public, private and not for profit sectors, in the UK and internationally. Around 10% of the UK's STEM subject PhD graduates apply to join our Fellowship programme every year. And our data science platform Sherlock is used by an increasing number of the world's top universities and companies.

For more information, please visit: www.asidatascience.com

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machinable helps organisations shape and deliver practical machine learning solutions that yield real business benefit. Our support ranges from executive training, market intelligence, machine learning opportunity diagnostic to the design, piloting and implementation of solutions related to automating information intensive tasks, inferring latent customer behaviours and managing customer risks.

Our teams blend highly analytical business consultants and data / machine learning scientists with strong communications skills, curiosity and empathy for business problems. We also leverage our partnerships with leading research institutes and AI/ML vendors and to bring to our clients the latest innovations and proven technologies.

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