Artificial Intelligence (AI) Data Specialist

About this course

Course overview

This programme is delivered by QA with the apprenticeship certificate awarded by British Computer Society.

For learners applying to begin their programme in January: QA has two primary objectives during this rapidly evolving period regarding Coronavirus (Covid-19). The first is to ensure the welfare of our learners and staff, and the second is to ensure continuity and access to learning. In line with the sector as a whole and its response to Covid-19, if necessary, we will implement online teaching for this programme to allow you to begin your programme this January.

PLEASE NOTE: To be eligible for one of our Higher Apprenticeship programmes, learners must:

(1) be **currently in full-time employment** and based in the UK

(2) be interested in completing a Higher Apprenticeship with their **current employer**

The Level 7 Artificial Intelligence Data Specialist apprenticeship programme is designed to enable learners to develop a deep technical knowledge that allows the discovery and creation of new data-driven AI solutions. These solutions should help to automate and optimise business processes and to support, augment and enhance human decision-making

AI Data Specialists carry out applied research in order to create innovative data-driven artificial intelligence (AI) solutions to business problems within the constraints of a specific business context. They work with datasets that are too large, too complex, too varied or too fast, which render traditional approaches and techniques unsuitable or unfeasible. The programme consists of 6 key modules completed across 15 months and culminates with an EPA with the British Computing Society (BCS) to confirm the achievement of the apprenticeship standard.

Download Programme Handout

Careers

You will be equipped to work in a range of Machine Learning and AI jobs. These include:

- AI strategy manager
- AI Engineer
- AI specialist
- Director AI
- Machine Learning Engineer
- Machine Learning Specialist

Modules

All modules are core and worth 20 credits unless otherwise stated.

Programming for Artificial Intelligence

In this module, you will gain knowledge and practical experience, including skills, which will enable you to understand the statistical methods and programming knowledge surrounding Artificial

Intelligence and Data Science. The module combines both theoretical and practical application approaches, enhancing the skills required to engage in Data Science problems in current and realistic business environments. The module additionally develops programming skills within the R similar statistical framework, to aid in an effective and efficient statistical data analysis setting.

AI and Digital Innovation

This module will provide a general introduction of Artificial Intelligence (AI) and digital innovation that centres on organisational examples e.g. such as business finance, health, and energy. Successfully completing the module will provide you with an understanding of the application of AI and its role in digital innovation that illustrates various real-world applications of the use of AI tools.

The module will use case studies to support the seminars, which use real-world data problems for the design and analysis of solutions. A range of techniques will be examined to understand which tools are appropriate during the design, piloting and testing solutions. Digital innovation methods will be applied to identify the key potential of gaps where AI or data analytics techniques may be appropriate and what factors influence the effective use of the tools.

Data Science Principles

In this module you will learn about the principles of Data Science. Data Science is about using data to create knowledge which will advance business or society. Its subject area comprises an intersection of mathematics/statistics, computing and organisation knowledge and as such is broad. In this module we overview all areas within data science, investigating the theory and also applying data science methods to practical problem-solving. You will learn how to analysis an organisation's data assets, create data-driven project ideas that advance an organisation's knowledge base, and how implement such projects.

Machine Learning using Cloud Computing

In this module you will develop knowledge and skills that will enable you to tackle a realistic machine learning problem, using advanced machine learning techniques. You will also learn how to implement machine learning-based solutions using the cloud and how to evaluate their performance. The main topics covered in this module include: supervised, unsupervised and reinforcement learning; optimisation techniques; ensemble techniques; scalable infrastructures; high-performance architecture; and cloud services and platforms for AI.

AI and Data Science Professional Practice

A key element of your journey towards becoming a Digital and Technology Specialist is your ongoing skills development. This module requires you to engage in a recognised CPD programme relating to your specialist pathway and reflect upon how such learning can be embedded back into the workplace. To enable this we will consider the following areas:

- Identification of a relevant skills need and subsequent CPD programme, embedded into your module delivery
- Design and presentation of a Professional Practice Log using appropriate reflective framework
- Strategies to embed learning from your CPD into practice

Disruptive Leadership for Sustainable Strategy

This module is about the development of practical skills and techniques required by businesses to help them in developing a sustainable strategy. In this module, you will develop knowledge and skills in disruptive Leadership skills, apply them and critically analyse how innovation in its various forms affect business competitiveness. Disruptive leadership strategies and techniques are examined and developed in the context of rapid, innovative and radical change through AI and related technologies that are impacting industry ecosystems.

Learner Support

Skills Coach

Your Skills Coach will be your primary, non-academic contact, supporting you in the successful progression and completion of your apprenticeship. Your coach will support you in reviewing your progress and collecting evidence of your practice at work to integrate into your module assessments and final endpoint project/assessment. They are also a point of contact for queries, concerns, or general support.

Your Coach can help you with:

- Coaching and supporting work-based learning activities
- Reviewing your progress with your apprenticeship portfolio progress
- Help with achieving your EPA
- Advice and guidance on mitigating (extenuating) circumstances processes and potential breaks in learning.

Workplace Mentor

A Workplace Mentor will be appointed by your employer and typically would be someone you work with. Your workplace mentor will be familiar with the apprenticeship programme and its workplace requirements. They will facilitate workplace learning opportunities to enable you to meet the requirements of the degree apprenticeship standard.

ACE Team

They are the Academic Community of Excellence (ACE) Team, and amongst the team, have many years of experience providing academic guidance to students on subjects such as how to write in an academic style, how to read smarter rather than longer and how to reference accurately.

The ACE Team will provide you with support on academic matters outside of the classroom. You can also book a 1-1 meeting (mainly online) with the ACE Team and get feedback on your academic style of writing, references and critical report writing.

How can the ACE Team support you?

1. "Welcome to the World of Academia" online workshops: if you wish to have an introduction to or a review of the different aspects of academic life before starting your programme, then please do join their online workshops (non-obligatory – but much to be gained from joining!).
2. One-to-one tutorials: you can book a virtual 30-minute tutorial to discuss your academic development skills, such as paraphrasing, referencing and academic writing.
3. Online workshops: we offer ongoing support workshops on a variety of academic subjects such as structuring an argument, academic style and criticality.
4. Our own-created range of learner materials: we have also developed a wide range of ACE Team created materials based on common questions and academic needs.

QA Welfare Services

Our Student Welfare Team is on hand to assist you throughout your studies. Some degree apprenticeship learners have additional learning needs which the Welfare Team can assist with, or they might help you with personal circumstances that are affecting your studies.

Entry Requirements

Standard Entry Requirements

Applicants will usually have obtained: an honours degree (2:2 or above) in an appropriate discipline, or with the appropriate aptitude for a role in technology.

Non-standard entry with work experience

Relevant qualifications and/or work experience will be taken into consideration where the applicant has the judged potential to benefit from the programme. Requests will be considered on an individual basis where appropriate.

Informal Interviews

Informal interviews will be held where

- The suitability of a candidate is in doubt and further evidence is sought.

- The candidate presents an unusual set of qualifications taken or pending, and an appropriate conditional offer needs to be determined.
- Candidates may need advice on the appropriateness of the programme.

Applicants invited for an informal interview will always be informed of its purpose.

Fees & Finance

There is no cost to you as a degree apprentice. Degree Apprenticeships are fully funded by the Apprenticeship Levy through your employer.

If you're an employer, the total funding for this programme is:

- £17,000

Travel expenses to travel to QA centres should be covered by the employer.

All textbooks are provided free of charge as e-books. Any students wishing to use paper copies will need to pay for these themselves.

How to apply

If you are interested in applying to study or to offer a Higher Apprenticeship, please complete the enquiry form on this page and one of our account managers will be in touch.

In order to join a Higher Apprenticeship, the employer will either recruit new staff or select existing staff that are suitable for the programme.