Level 6 AI Engineer.

This apprenticeship gives learners the skills to build and deploy real AI solutions using tools like machine learning, computer vision and natural language processing. They learn how to automate manual tasks, spot patterns in data and create smarter digital workflows that support faster, better decisions. With practical, ethical AI capability in your teams, your business gains sharper insights, greater efficiency and the confidence to innovate at pace, turning AI into meaningful, measurable impact.

Who's it for?

This programme is ideal for people who want to build genuine machine learning and AI engineering expertise, using data to solve real problems and create intelligent systems.

To be eligible for this programme, learners must be employed in a relevant role, which could include:

- AI engineers and ML practitioners
- Software developers and data scientists
- IT and data professionals
- Technology leaders
- Career switchers and AI enthusiasts with a foundational understanding of programming and data

Business impacts

- Boost sales opportunities through smarter predictions of what customers want next
- Help customers get what they need faster by improving digital experiences
- Cut wasted time by turning messy data into reliable, usable insights
- Speed up innovation by quickly testing new ideas powered by data
- Prevent costly mistakes by spotting issues in automated systems early
- Protect the business by ensuring AI use is ethical, safe and compliant

Built for performance

- **AI embedded across every programme.** Equipping your workforce to develop job-ready skills that boost productivity and drive business impact.
- **Measurable business impact, not just learning outcomes.** Learners complete real workplace projects, supported by Coaches who help translate skills into demonstrable ROI.
- **Hands-on learning through virtual labs.** Guided virtual labs allow learners to safely experiment with real tools and technologies, mirroring real-world technical environments.
- **Relevant, tailored learning.** Data-sets and case studies can be adapted to ensure learning remains relevant to the individual and the sector or business area they work in.
- **Verified digital credentials employers can trust.** Digital badges and vendor-aligned certifications provide secure, shareable evidence of skills and progression.
- **Personalised continuous development.** Learners have the 'digital edge' – masterclasses, podcasts, guest speakers, in-person meet-ups, on-demand e-learning tech modules – all available according to their need and interests.

BPP LYCEUM EDUCATION GROUP

Programme overview.

Apprenticeship standard:
Machine Learning Engineer

Cost: £22,000

Duration: 18 months

Entry requirements

As a minimum learners will need to have:

- Level 3 qualification such as A-Levels (or equivalent) in a relevant subject, for example computer science, maths, or applied sciences

Prepare for the challenges of tomorrow

Get ahead of evolving workforce skills needs

Every BPP apprentice has access to our exclusive Emerging Skills programme.

Comprised of four bespoke courses, the programme combines expertise from BPP, Microsoft and xUnlocked to give learners essential knowledge and skills in the rapidly emerging areas of AI, cyber security and sustainability.

- Available to all learners at no extra cost
- Accessible anytime, anywhere via our virtual learning platform
- Self-paced learning to fit into any busy schedule

xUnlocked

Programme contents

Generative AI Fundamentals (Four modules)

Developed by BPP's expert data scientists, this course offers an introduction to working with generative AI effectively, safely and ethically.

Introduction to Sustainability (Six modules)

Developed in partnership with sustainability experts, xUnlocked, this course builds fundamental knowledge on sustainability and sustainable working practices.

Microsoft AI and Security Essentials (Seven modules)

This course begins with a core AI Essentials pathway, followed by a choice between AI Fundamentals or Security. Microsoft digital badges are awarded throughout, with the option to earn a recognised Microsoft Certification upon completion.

Cyber Security (Three modules)

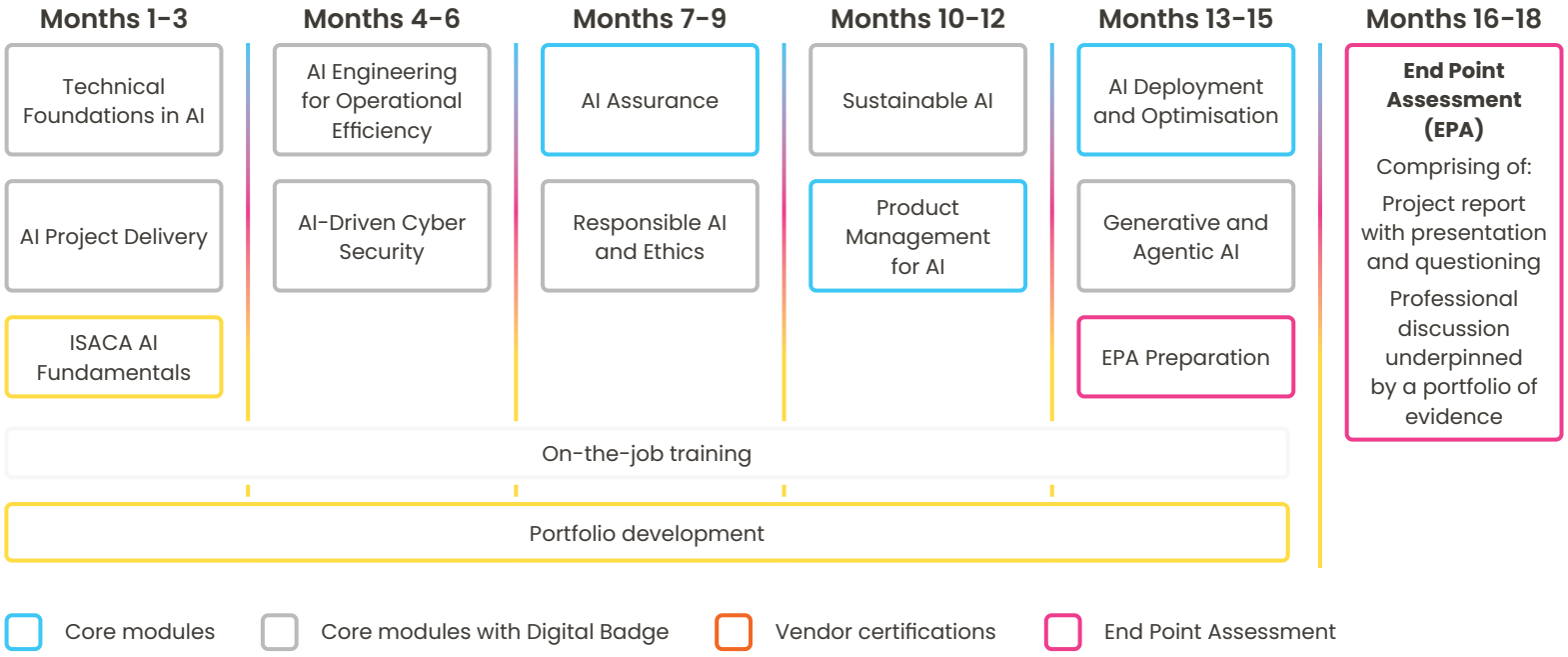
Designed by BPP's cyber experts, this course provides a clear and practical introduction to the importance of cyber security, the most common attack techniques everyone should be aware of, and the fast-changing digital threat landscape.

Level 6 AI Engineer.

Study mode

Online weekly: flexible learning that fits busy schedules, with two to three hours of online live lectures and seminars.

18-month programme (inc. EPA)



Core modules | Core modules with Digital Badge | Vendor certifications | End Point Assessment

Certifications - ISACA AI Fundamentals

ISACA

Apprenticeship standard

Machine Learning Engineer

Delivered by

BPP

Time commitment*

- **15 months** on programme
- **124 days** *(three hours per week)* in online live training sessions *(40 sessions in total)*
- **3-4 hours** guided self-study, per module, via our virtual learning platform
- **1 hour** performance coaching session, every month
- **1 hour** progress review, every eight weeks
- **1 hour** EPA preparation session
- **3 months** in End Point Assessment
- **Off-the job training** *(average six hours a week)* Apprentices have dedicated learning time within their normal working hours to develop new skills directly linked to their apprenticeship. Training, mentoring, online learning and project work all count toward this time, and sit alongside their normal duties, not outside them.

Optional certification exams

- Certification exams are optional and not required to pass the apprenticeship. One exam attempt per certification is included at no extra cost. Resit fees are covered by the employer. Learners will only be encouraged to sit exams once they have shown they are ready by passing a mock test.

*On average.

Programme modules.

Technical Foundations in AI

This module introduces learners to the core technologies, methods and tools that underpin modern AI. They explore machine learning, deep learning and emerging AI capabilities while building confidence with programming, maths and development environments. The focus is on understanding how different models, architectures and platforms work together to support intelligent, scalable automation.

AI Project Delivery

This module prepares learners to manage the full AI and machine learning life cycle using structured methodologies and best practice. They explore model development, evaluation, deployment and quality assurance, supported by strong version control and documentation. The focus is on delivering AI solutions that are reliable, well-governed and aligned with professional standards.

AI Engineering for Operational Efficiency

This module gives learners the skills to build and maintain strong data and AI engineering workflows that keep models reliable and scalable. They explore feature engineering, preprocessing, pipelines and infrastructure choices while understanding how performance, drift and data quality shape outcomes. The emphasis is on creating efficient, resilient systems that support real-world operational demands.

AI-Driven Cyber Security

This module builds learners' understanding of how to design, deploy and protect AI systems securely. They explore key security principles, common attack risks and practices that strengthen confidentiality, integrity and availability. Through preventative approaches and secure-by-design thinking, learners help create resilient machine learning solutions that support a strong organisational security culture.

AI Assurance

This module helps learners ensure AI systems remain accurate, fair and stable throughout their life cycle. They explore performance metrics, model monitoring, explainability and software evaluation to identify issues and reduce risk. By understanding bias, drift and model behaviour, learners strengthen the organisation's ability to deploy trustworthy, transparent and accountable AI solutions.

Responsible AI and Ethics

This module develops learners' ability to create AI systems that are fair, reliable and grounded in high-quality data. They explore data collection, quality assessment, exploratory analysis and ethical model development, including sampling, training and validation. By recognising risks and reducing bias, learners ensure AI solutions support responsible, transparent and trustworthy decision-making.

Programme modules.

Sustainable AI

This module helps learners understand how to embed sustainable thinking into AI and machine learning engineering. They explore tools, practices and environmental considerations that shape responsible development, aligning technical decisions with organisational sustainability goals. The focus is on reducing environmental impact while supporting long-term, ethical AI adoption.

AI Deployment and Optimisation

This module develops learners' ability to deploy and refine AI solutions that meaningfully support organisational goals. They explore how to translate business needs into technical approaches, integrate machine learning systems and evaluate models responsibly. Through strategic thinking and horizon scanning, learners build confidence in delivering AI that is impactful, ethical and aligned with future business requirements.

ISACA AI Fundamentals

This certification gives learners a clear understanding of core AI concepts and how machine learning, neural networks, natural language processing (NLP), and computer vision work in practice. They learn to spot genuine AI opportunities, understand risks and ethics, and recognise where AI can automate tasks and improve decision-making, helping organisations adopt AI responsibly and effectively.

Product Management for AI

This module strengthens learners' ability to manage AI products effectively across diverse teams and stakeholders. They explore communication, collaboration, negotiation and expectation-setting techniques that support smooth delivery throughout the AI life cycle. The focus is on creating inclusive, transparent working environments where AI solutions are aligned with user needs and organisational priorities.

Generative and Agentic AI

This module introduces learners to the potential of generative and agentic AI, exploring how these technologies can drive creativity, efficiency and strategic value. Learners consider implementation approaches, ethical expectations and practical integration within real workflows. The focus is on using advanced AI responsibly to unlock innovation while protecting organisational integrity.

AI Tools and Competencies

AI tools/platforms used on this programme:

- Modern AI and ML libraries in Python
- Development environments
- Version control and CI/CD tools
- Cloud platforms (SaaS, PaaS)
- Data pipeline tools
- Generative AI tools

Competencies gained with this programme include:

- Understanding core AI and ML concepts
- AI and ML life cycle management
- Data engineering for AI and ML
- AI and ML security
- AI and ML Sustainability
- Using generative and agentic AI

Required Tools

This course requires learners to have access to Microsoft Excel (ideally 2016 or later) and Power BI Desktop (free, no license required). Additionally, learners must have access to free generative AI (GenAI) tools such as OpenAI's ChatGPT, Google's Gemini, Anthropic's Claude, or Microsoft's Copilot.

As organisational policies on generative AI tools vary, learners must secure approval from their employer and confirm access before applying to this programme.

Transformative *technologies.*

Designed to make real-world impact, our on-demand, self-paced asynchronous modules build awareness of transformative technologies, with coverage of artificial intelligence and an evolving roadmap to explore digital twins, edge computing and other emerging technologies.

- Available to all learners at no extra cost
- Bespoke to BPP, developed by our expert data scientists
- Self-guided online learning to fit into any busy schedule
- Accessible anytime, anywhere via our virtual learning platform

Knowledge and skills gained

Focusing on practical application of technical and non-technical AI skills, the modules explore AI's capacity to optimise structured interactions, align governance frameworks, and deploy scalable solutions, with a significant focus on ethical considerations and operational efficiency.

- Ability to design and implement complex prompts for diverse use cases
- Understanding and application of HITL techniques and fact-checking principles
- Ability to conduct prompt A/B testing
- Understanding of AI governance frameworks and compliance requirements
- Ability to adapt AI messaging for different stakeholders
- Ability to assess AI ecosystems
- Understanding of API-driven generative AI (GenAI) benefits

Tools

Large language models (LLMs) (for example Copilot or Google Gemini)

No-code AI automation platforms (no prior coding knowledge required)

Optional masterclasses

Live online sessions available every month

Example topics include:

- Data Leadership
- Ethical Hacking and Cyber Security
- Discovering and Analysing Market Trends
- Sustainable Technology and Green Computing
- Responsible AI
- Setting AI Strategy
- Emerging Landscapes – AI
- Quantum Computing Fundamentals