Session 1 : What is AI?

Greetings everyone and welcome to the first session of this AI literacy program. Over the next several sessions, we will be exploring the impact of artificial intelligence on our work and how we can make the most of it effectively, safely and ethically.

Now, Ai literacy is essentially understanding the language and logic of AI. Just like normal literacy in machines and computers, AI literacy is about gaining understanding and confidence to use AI tools in any setting and in particular. your professional workspaces,

By the end of this program, you’ll be able to:

* Understand what AI actually is — beyond the buzzwords,
* Recognise what AI can and cannot do,
* Use AI tools responsibly and securely,
* Craft effective prompts to get useful results, and
* Integrate AI into your workflows to save time and improve productivity.

So rather than fearing AI or ignoring it, this program will help you see it as a partner — a digital assistant that amplifies your strengths rather than replaces them.”

The first session s about establishing a foundation of what AI actually is and how it works on the general level. By the end of this session, you should be able to explain what artificial intelligence is in your own words, describe the main types of AI and how they learn as well as recognise real-world examples of AI working in everyday workflows. This session will provide the necessary grounds for future sessions.

Now why is everyone talking about artificial intelligence. AI is not a new concept and has been around for decades since the 1950s, when computers were slow, expensive, and limited.

Today, everything has changed. Current computers are more powerful with access to massive amounts of data, and advanced algorithms that can now learn patterns, make predictions, and even generate new ideas. These technological advancements over the years are what made modern AI possible.

However, the change that is being noticed in current years is caused by the drastic increase in accessibility of AI. You don’t need to be a computer scientist to use AI anymore. Tools like ChatGPT, Gemini, Copilot, and many others let *anyone* use AI to write, design, code, analyse data, or come up with creative ideas — all from your laptop or phone.

AI has quickly become part of everyday life. It’s helping doctors read scans, assisting students with research, improving customer service, and even generating art and music. It’s transforming how we communicate, how we create, and how we make decisions.

That is why AI is being talked about so much. Things are moving fast, and those who understand and can work with AI will be the ones shaping the future.

And that’s exactly why this program exists: to help you build AI literacy. To understand what AI is, what it can do, and how to use it responsibly and effectively.

But let’s start from the very beginning: “*What even is Artificial Intelligence”*.

Simply put, Artificial Intelligence, or AI, is a branch of computer science focused on creating systems capable of performing tasks that normally require human intelligence. At its core, AI aims to replicate or simulate aspects of human cognition, such as learning, reasoning, problem-solving, perception, and language understanding.

Unlike traditional computer programs that follow fixed instructions like a recipe book, AI systems are like the chefs that can adapt their behaviour based on the data they receive, allowing them to improve performance over time without explicit human intervention. This adaptive capability is a key distinction, as it enables AI to handle complex, dynamic, and unstructured problems that would otherwise be difficult to encode using conventional programming approaches.

Within the broad field of AI, there are several subtypes that are important to understand. One distinction commonly made is between narrow AI and general AI. Narrow AI, also referred to as weak AI, is designed to perform a specific task or a narrow set of tasks. Examples include voice assistants that can interpret speech, recommendation engines that suggest products based on past behavior, or image recognition software that identifies objects in photographs. Narrow AI excels within the limits of its defined task but cannot generalize beyond its programming. In contrast, general AI, also known as strong AI, refers to systems that would possess the ability to understand, learn, and apply knowledge across a wide variety of tasks at a level comparable to human intelligence. While general AI remains largely theoretical at this stage, it represents the aspirational goal of the AI research community. Nonetheless, this distinction is crucial to establish so that we know the extent to which current AI technologies can function at. Despite how powerful current AI is, they are still limited to the tasks they were designed for and are not to be treated as human intelligence.

Ok, How does AI learn then.

Artificial intelligence systems do not learn in the same way humans do, but they do acquire capabilities through exposure to data and patterns, which is comparable to human learning. Think of teaching a child how to distinguish between a cat and a dog. You would show examples of cats and dogs, maybe through photos, videos, or in real life, and inform the child which is which. Over time, the child will pick up on certain distinctions and will eventually know how to differentiate a dog and a cat based on these patterns. This is the main concept which AI learning is based on. Pattern recognition.

Machine learning, a branch of AI, focuses on enabling systems to improve performance on a specific task over time without being explicitly programmed for every possible scenario. At a high level, machine learning models are trained on datasets containing examples of inputs and the corresponding desired outputs. Through repeated exposure, the AI identifies patterns, relationships, and statistical regularities in the data, which it then uses to make predictions, generate content, or perform actions when encountering new, unseen inputs. This ability to generalize from prior data is what allows AI to perform complex tasks such as recognizing images, translating languages, or generating human-like text.

There are several approaches to machine learning that illustrate different ways AI can acquire knowledge. In **supervised learning**, the AI model is provided with labeled datasets, where each example is paired with the correct output. For instance, a system designed to classify emails as spam or not spam would be trained on thousands of emails that have been manually labeled. The model then learns to associate specific features — such as keywords, email structure, or sender information — with the correct classification. Over time, the AI adjusts its internal parameters to minimize errors, enabling it to predict outcomes accurately for new emails it has never seen.

In **unsupervised learning**, the AI works with unlabeled data and is tasked with discovering patterns or structures without predefined answers. For example, an AI system might analyze customer purchase behavior to identify groups of similar buying patterns. These clusters or patterns can help organizations understand their customers better and make data-driven decisions, such as personalizing marketing strategies or optimizing inventory. Unlike supervised learning, unsupervised methods allow AI to reveal hidden structures in the data that might not be immediately obvious to human analysts.

**Reinforcement learning** provides another perspective, inspired by the way humans and animals learn through trial and error. In this paradigm, an AI agent interacts with an environment and receives feedback in the form of rewards or penalties depending on its actions. Through repeated interaction, the agent learns to select actions that maximize cumulative rewards. This approach has been applied in robotics, autonomous vehicles, and even complex game-playing AI, demonstrating that AI can learn optimal strategies in dynamic and uncertain situations.

A key element across all these methods is the concept of **pattern recognition**. AI models detect statistical correlations and regularities in data, enabling them to make informed predictions or generate outputs. For instance, in image recognition, models learn to detect edges, shapes, and textures that differentiate one object from another. In natural language processing, models analyze billions of words to understand grammar, context, and semantic relationships. By recognizing these patterns, AI can generalize from training examples to new situations, producing outputs that appear intelligent and contextually appropriate.

Artificial intelligence is no longer confined to research labs or technology companies; it has become a practical tool across nearly every professional domain. Understanding how AI is being applied in real-world contexts is a key part of AI literacy, as it helps professionals see how AI Is being used in different environments and how they can leverage AI into their own work. From healthcare and education to business operations and customer service, AI is increasingly integrated into processes that were once entirely manual, enabling faster, more accurate, and more efficient outcomes. By exploring these examples, we can see not only what AI is capable of, but also how it can augment human skills and decision-making.

In **healthcare**, AI is revolutionizing the way medical professionals access and interpret information. Tools powered by AI can assist doctors and nurses in diagnosing diseases by analyzing medical images such as X-rays, CT scans, and MRIs, highlighting potential areas of concern that may require closer examination. AI-driven systems can also process vast amounts of patient data to generate summaries, track trends in vital signs, or suggest personalized treatment options. Beyond clinical applications, AI supports administrative functions as well, such as scheduling appointments, managing records, or handling insurance claims. For healthcare professionals, understanding these tools and their applications is crucial, as it enables them to work alongside AI to provide better patient care while maintaining efficiency in high-demand environments.

In the field of **education**, AI is helping educators and administrators manage a growing range of tasks more effectively. Intelligent tutoring systems can adapt to the learning pace and style of individual students, offering personalized exercises and feedback to enhance comprehension. AI can also assist teachers in creating lesson plans, generating assessments, or grading assignments, freeing up time for more interactive and creative aspects of teaching. Additionally, AI-powered analytics can identify trends in student performance, enabling educators to intervene early and provide targeted support. Professionals in education who understand AI applications can thus enhance both administrative efficiency and learning outcomes, while also equipping students with the skills to navigate an increasingly AI-integrated world.

In **business and professional services**, AI is widely used to streamline operations, improve decision-making, and enhance customer engagement. AI tools can analyze large datasets to generate insights about market trends, customer behavior, or operational performance, supporting more informed strategic decisions. In marketing and communications, AI can draft emails, summarize reports, or even create content for social media campaigns, accelerating workflows while maintaining consistency and quality. Similarly, customer service departments employ AI-driven chatbots and virtual assistants to provide rapid responses to common inquiries, allowing human staff to focus on complex issues that require empathy and critical thinking. Across these functions, professionals who are literate in AI can integrate these tools into their workflows to increase productivity and deliver better results.

Across **all sectors**, AI’s integration into everyday workflows demonstrates the growing importance of AI literacy. Professionals who are familiar with AI concepts, know how to interact with AI tools, and can interpret AI outputs are better positioned to innovate within their roles, identify efficiency gains, and make data-informed decisions. Whether generating insights, automating repetitive tasks, or supporting human judgment, AI acts as a collaborator, extending human capabilities across diverse professional environments.

In summary, AI’s presence in professional domains is already substantial, ranging from healthcare diagnostics and personalized education to business analytics and research support. For employees across sectors, understanding how AI functions in practice is essential to leveraging its potential. By seeing concrete examples of AI in action, professionals can begin to imagine practical applications in their own roles, laying the foundation for confident and effective use of AI in their daily work. This understanding represents the core of AI literacy: knowing not only what AI is, but how it can be integrated to enhance human productivity, creativity, and decision-making in meaningful ways.

All of these examples reinforce a critical takeaway from this session: while AI can learn and generalize from data to perform useful tasks, it does so by detecting patterns, not by understanding. Recognizing this distinction allows professionals to see where AI can add value and where human judgment remains essential. By relating these examples to the session objectives, participants can connect theory to practice, gaining a clear picture of how AI works and where it can be applied effectively in their own roles.

As we conclude the first session, there are several key points to remember. First, artificial intelligence is fundamentally about creating systems that can perform tasks that typically require human intelligence. Unlike traditional software, AI learns from data and identifies patterns, allowing it to make predictions, generate content, or perform actions without being explicitly programmed for every scenario. Understanding this foundation is essential for using AI effectively in any professional context.

Second, AI comes in different forms. Narrow AI excels at specific tasks, while general AI remains an aspirational goal. Generative AI, in particular, demonstrates the creative potential of AI by producing text, images, audio, and other content based on patterns learned from vast datasets. Recognizing these distinctions helps professionals understand what AI can do and where it is most applicable in their work.

Third, AI learns through exposure to data using approaches such as supervised learning, unsupervised learning, and reinforcement learning. In each case, the system identifies patterns and relationships within the data to generalize and perform tasks in new situations. This process of learning from patterns underpins all practical AI applications, from image recognition to language processing, and is central to the concept of AI literacy.

Finally, AI is already integrated into many professional domains. In healthcare, it assists with diagnostics and administrative tasks; in education, it supports teaching and student assessment; in business, it drives analytics, communication, and customer engagement; and in research, it helps organize, analyze, and synthesize information. Seeing AI in action highlights both its practical value and the opportunities for professionals to leverage these tools in their own roles.

The key takeaway for today is that **AI is a tool designed to augment human intelligence**. By understanding how it works, how it learns, and how it is applied in real-world contexts, professionals can confidently integrate AI into their workflows, make informed decisions, and unlock efficiencies in their daily work. Developing this foundational literacy is the first step toward using AI responsibly and effectively across any professional environment.