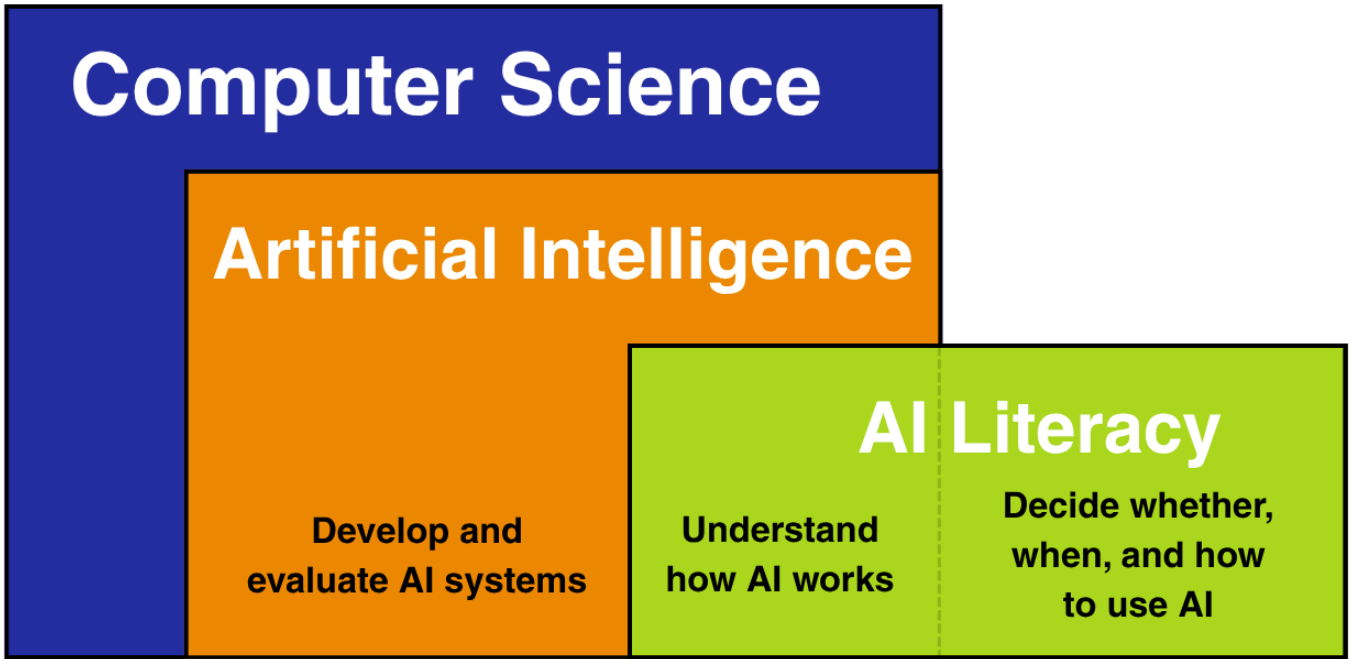
Education leaders are being asked to decide what counts as computer science & AI education, often without a shared understanding of the terms. These definitions provide a common starting point.

There is no AI without computer science.

The data, algorithms, and computing systems that power artificial intelligence are built on the foundations of computer science.



Computer Science

The study and human-centered practice of using data, algorithms, and computing systems to solve problems, make discoveries, and express ideas. – *CSTA (2026)*

Artificial Intelligence

A subdiscipline of computer science focused on developing computing systems that perform tasks often associated with human intelligence such as learning, reasoning, and acting to achieve goals.

Computer science and AI both influence and are influenced by the people and societies in which they operate, involving an understanding of ethics, responsibility, and impact.

AI Literacy

The knowledge and skills that enable people to understand, critically evaluate, and use AI systems responsibly, while recognizing their capabilities, limitations, risks, and societal impacts.

AI literacy requires a foundation in CS. AI literacy is essential, but not a substitute for, AI education: teaching only tool use leaves students able to operate AI, but not able to build or evaluate it.

	Computer science is	AI is
Design *how AI works & is built*	✔ **A scientific and creative discipline** focused on understanding and designing algorithms, data, and computing systems. ✔ **A collaborative discipline** in which learners plan, communicate, test, and refine ideas to design solutions that serve diverse people and communities.	✔ **A subdiscipline of CS** focused on developing systems trained on data to recognize patterns and support predictions, decisions, or actions. ✔ **The study of how algorithms and probabilistic models**, including machine learning, natural language processing, and computer vision, **are designed, trained, evaluated, and improved.**
Apply *when, why, and how to use*	✔ **The application of computational thinking** to develop both rules-based and data-driven solutions across a variety of disciplines and contexts.	✔ **A context for applying computational thinking** in which data representation, abstraction, and algorithmic design and execution shape the behavior and limitations of intelligent systems.
Impact *effects on society*	✔ **An ethical, responsible, and human-centered practice**, in which it is critical to examine impacts, identify potential harms and benefits, and design responsibly.	✔ **A technology that requires ethical reasoning in its design, training, evaluation, and use**, including attention to accuracy, bias, fairness, transparency, privacy, academic integrity, and societal impacts.

	Computer science is *not*	AI is *not*
Common Misconceptions	✕ ***Using technology tools like word processors, slide decks, or generative AI tools.*** These appear in CS and in every other subject too. ✕ ***Limited to coding or programming.*** Programming is part of CS, but CS is much broader. ✕ ***Tied to one career path.*** CS has applications across every field and industry. ✕ ***Being replaced by AI.*** CS is what powers AI.	✕ ***Simply using AI tools like chatbots, image generators, or coding assistants.*** AI tools are used in AI education but the focus is understanding how AI systems work. ✕ ***Limited to large language models, generative AI, or agentic AI.*** AI covers a wide range of techniques. ✕ ***Only for advanced learners.*** AI instruction can be developmentally appropriate across all grades. ✕ ***New.*** AI first emerged in the 1950s.

Why Should Students Still Learn Computer Science in an Age of AI?

The rise of AI makes computer science education more important, not less. While learning to *use* AI is valuable, learning *how* it works, *where* it fails, and *who* controls it is what lets students shape and govern the technology, rather than passively consume it.

Understand how AI works.

CS builds understanding of the algorithms, data, and processes that power AI systems so students can assess whether a system is working as intended and why it sometimes isn't.

Use AI effectively and responsibly.

CS develops the computational thinking skills and foundational knowledge needed to evaluate AI outputs, catch and correct errors, and make informed decisions about whether, when, and how to use AI for a given task.

Shape AI rather than simply consume it.

CS gives students the knowledge and agency to question, critique, and create AI systems. Maximizing the reach of CS education ensures that the power and ability to make decisions about how AI is developed and deployed isn't limited to a narrow few.

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