

ARCS NEWS

Advancing Rural Computer Science

Brought to you by The Center for Educational Partnerships at Old Dominion University

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Announcements



Greetings!

Here in the Tidewater area, we are excited to see the first signs of spring! We hope you are seeing the same wherever you are in the Commonwealth. We also want to celebrate *Women's History Month* by showcasing five notable females who were [technology trailblazers!](#)

This month's theme is artificial intelligence (AI). Scroll down for definitions and common applications, and for some great resources that can help students understand and find everyday examples of abstract concepts like AI and machine learning.

Like you, we are dedicated to integrating CS into the K-5 curriculum. If you have found another resource you would like to share, or have a CS integration question that could use some input from others, feel free to send it our way at TCEP@odu.edu and we will include it in a future communication.

The ARCS team

Concept Corner



"Artificial intelligence is a growing and emerging field with many recent, widespread scientific and technological developments." This statement could conjure images of an apocalyptic scene of conscious metallic beings that puts the future of the human species in jeopardy. As educators, we can be in the business of curing such nightmares.

A computer system can be said to use AI if it even uses only one technology or concept that humans commonly have. A motion sensing device, for example, uses AI, since it mimics visual perception. Several other simple examples are speech recognition, language translation, and image recognition.

Machine learning - the science of analyzing collected information to predict and decide the next step and draw conclusions - is a subset of AI. All machine learning is AI, but not all AI is machine learning. Machine learning (ML) is not currently sophisticated enough to match human consciousness, but simple ML applications are common and help us achieve our daily tasks. They include traffic prediction during our daily commutes, fraud detection in online banking systems, and the "people you may know" feature on social media.

[What is Machine Learning? Definition, Types, Tools & More](#)

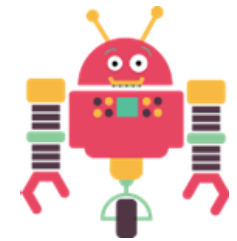
[Artificial Intelligence \(AI\) vs Machine Learning \(ML\): A Comparative Guide](#)

Pedagogy Pointers



Video for kids: Argo's World has an excellent video about artificial intelligence that explains some of the fundamentals of how AI works with kid-friendly terminology and real-world examples that should be familiar to children living in Virginia, such as how AI helps predict coastal weather. Aligns with CS 3.14, 4.15, and 5.14. Artificial intelligence's influence on daily lives may be a difficult concept for K-2.

[Argo's world video on Youtube](#)



Interactive lesson ideas: digital technologies hub includes online interactive activities and lesson ideas where children can safely engage with machine learning programs to learn about how they work. One of the activities uses machine learning to guess expressions; the other uses machine learning to guess what you are drawing in its interface. Please note that one of the two activities will include webcam access. Curriculum provided may need some adaptation for US standards. Aligns with CS 3.14, 4.15, and 5.14. Artificial intelligence's influence on daily lives may be a difficult concept for K-2.

[Digital technologies hub AI activities](#)

Computer Science in the Commonwealth



Artificial Intelligence is multidimensional. There are three primary subfields within AI: cognitive systems, robotics, and machine learning. The power and use of data are critical within the machine learning subfield.

Data literacy is a vital component within computer science, it is also noted within the [2017 Computer Science Standards of Learning](#) explicitly within the Data and Analysis content strand. As such, the Virginia AI4K12 state team would like to share the following children's book as an instructional resource. The book provides a fun and engaging account of children deciding to have a lemonade stand and their journey in learning about data along the way. The book was written by K-12 AI education experts and children's authors ReadyAI in partnership with Cloudera. The book is recommended for elementary students aged 8-12 years old.

A Fresh Squeeze on Data: Problem Solving with Data: Children's Book (Ages 8- 12)

Availability for free download at: Freshsqueezekids.com or available for purchase.

Engaging All Learners



Artificial Intelligence, or AI, is all around us – and schools are no exception. The International Society for Technology in Education (ISTE) is at the forefront of AI in education and provides resources for teachers, students, and parents to engage and immerse learners in the world of this adaptive technology. [Click here](#) to visit ISTE's AI in Education page to discover ways to introduce AI into your classroom. Resources include a brief video that presents an overview of the ways that AI is already present in our daily lives, free guides for promoting AI creation in the classroom (available for multiple grade levels and in multiple languages!), case studies of teacher-designed AI projects, and links to blogs, websites, and podcasts about AI. One such podcast presented by Tess Posner, CEO of AI4All, discusses the challenges of diversifying the AI field with those from underrepresented populations, and ways to combat these obstacles. [Click here](#) to start listening to her 24-minute presentation!

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