

*****Adapted from Dancing with AI by MIT**
<https://dancingwithai.media.mit.edu/curriculum>



Movement and Visual AI

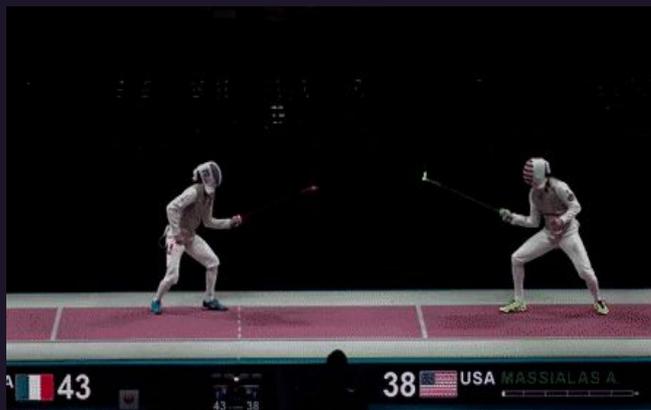
Yesterday was images and poses...



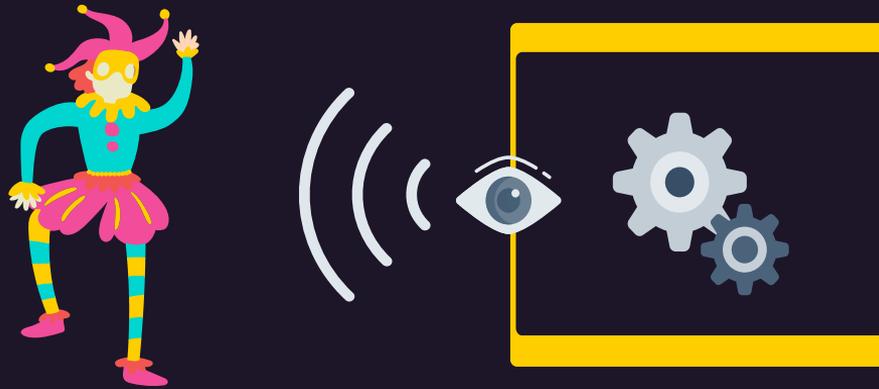
*Here are some
examples of
movement!*



We use motion for...



Can AI understand our movement?

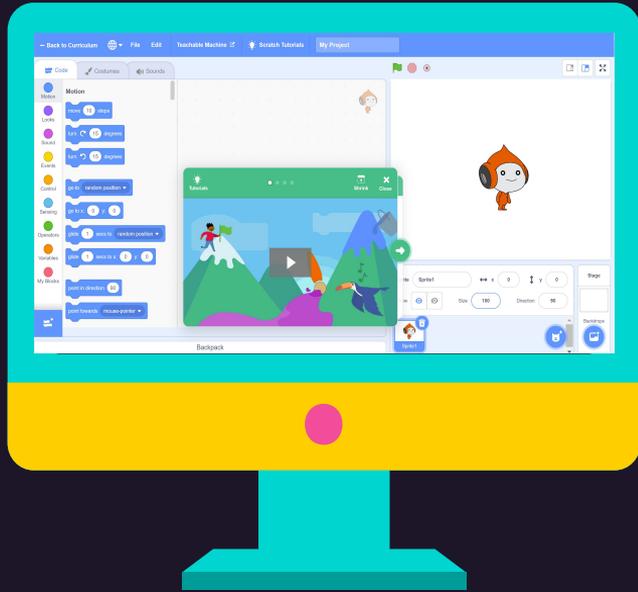


What do you think?

***It's time to code with
movement!***

***Has anyone heard of
Scratch?***

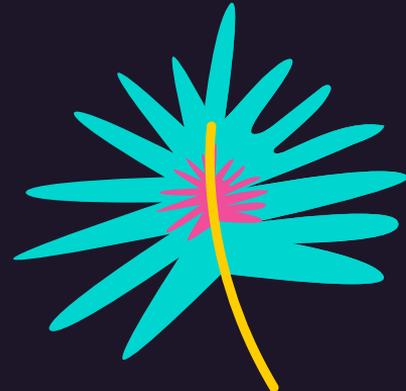




*Scratch is a tool for **creating**. We can use Scratch to make **stories, games, animations, art, music, and interactive AI systems**.*

Here's a quick intro to Scratch and the pieces of it we'll be using!

(Dancing with AI - Day 3, Slide 17)**

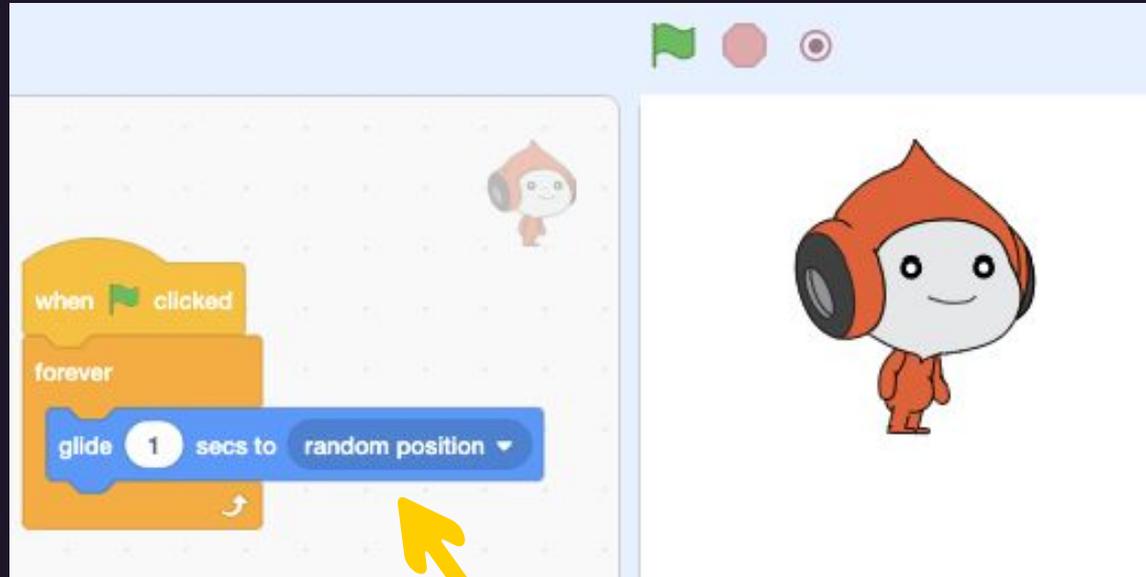


Block Programming

Start



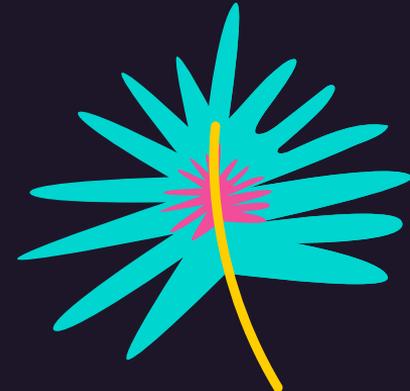
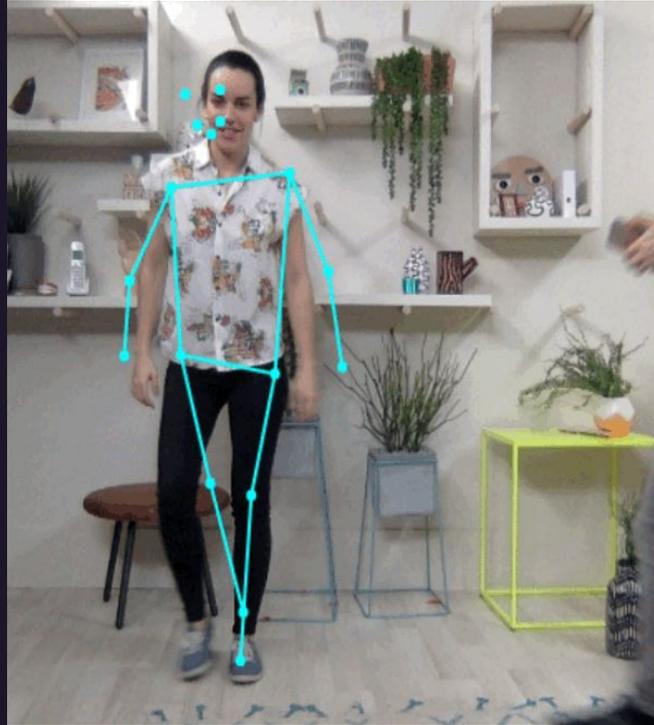
Stop



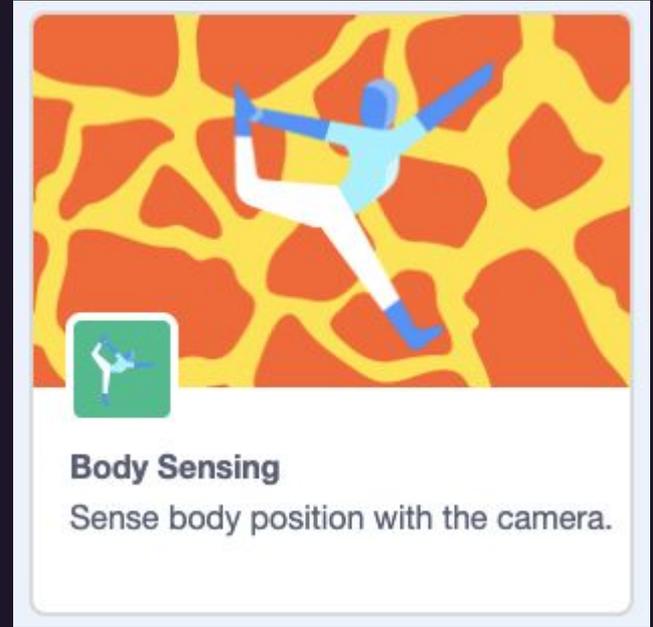
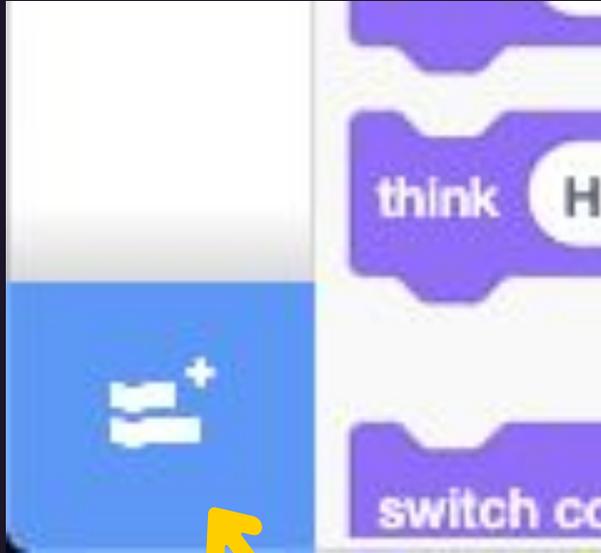
Moving to random position

(Dancing with AI - Day 3, Slide 18)**

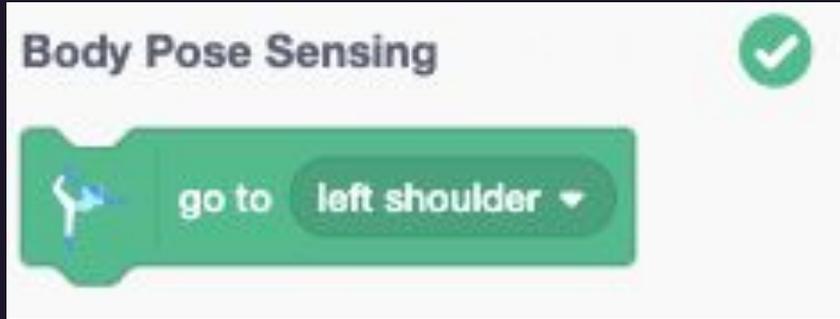
Posenet - Body Posing



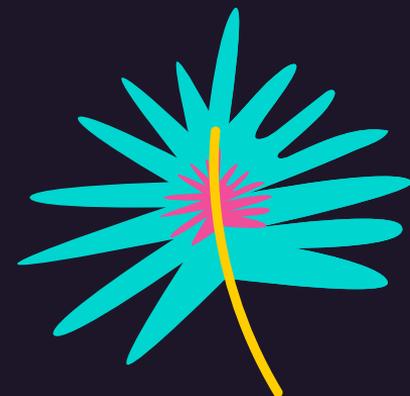
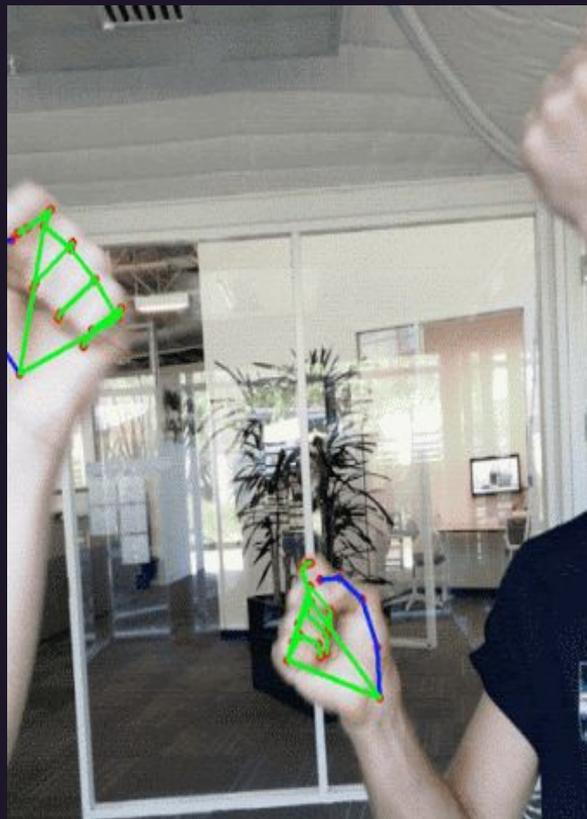
Adding pose blocks to Scratch



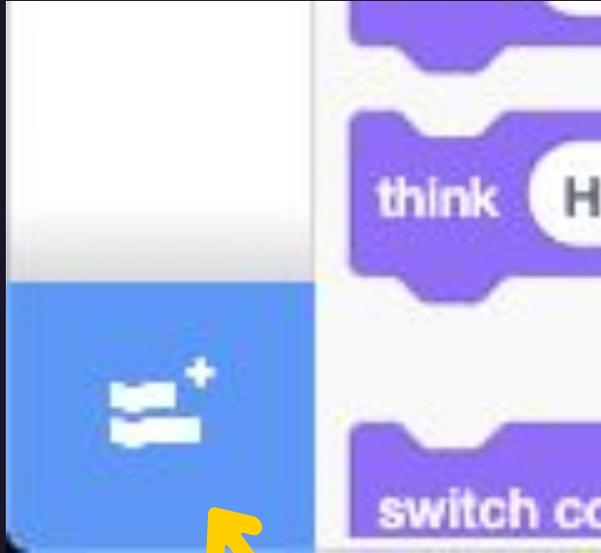
Example with Body Posing



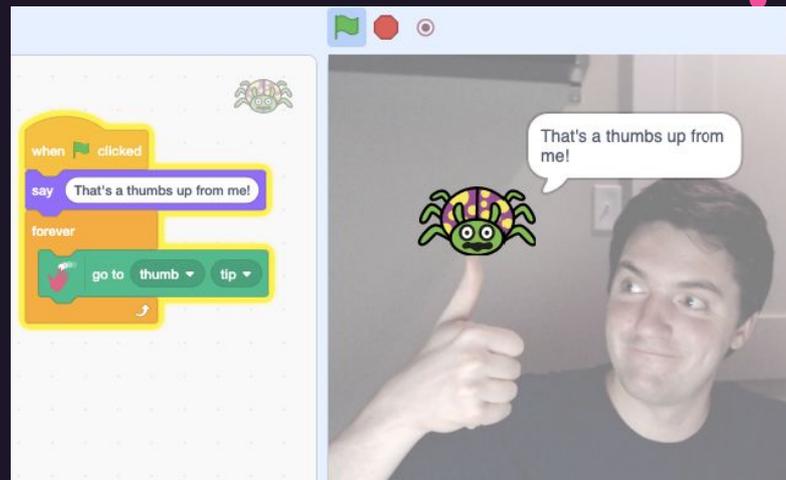
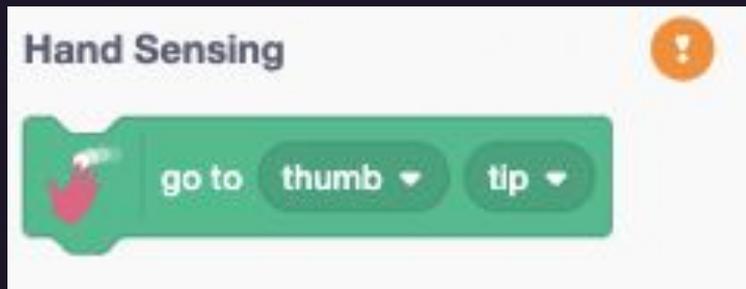
Posenet - Hand Posing



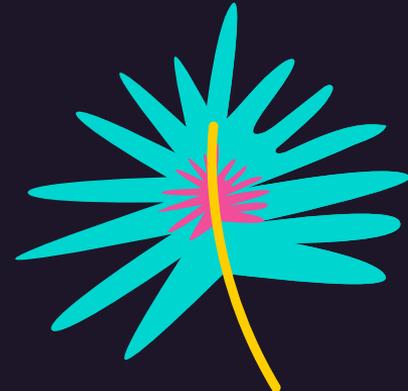
Adding hand blocks to Scratch



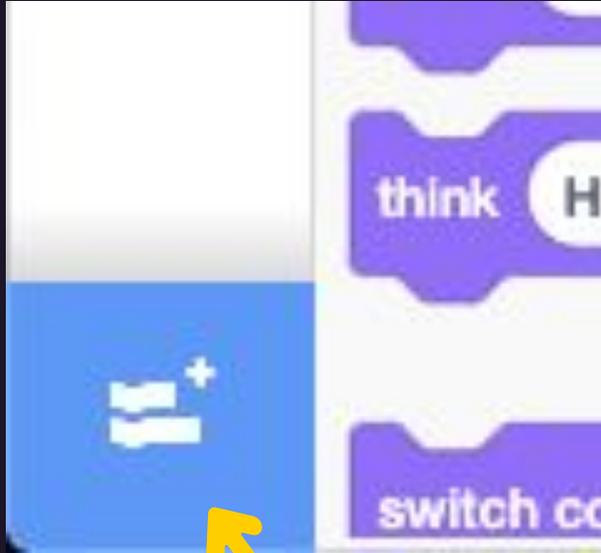
Example with Hand Posing



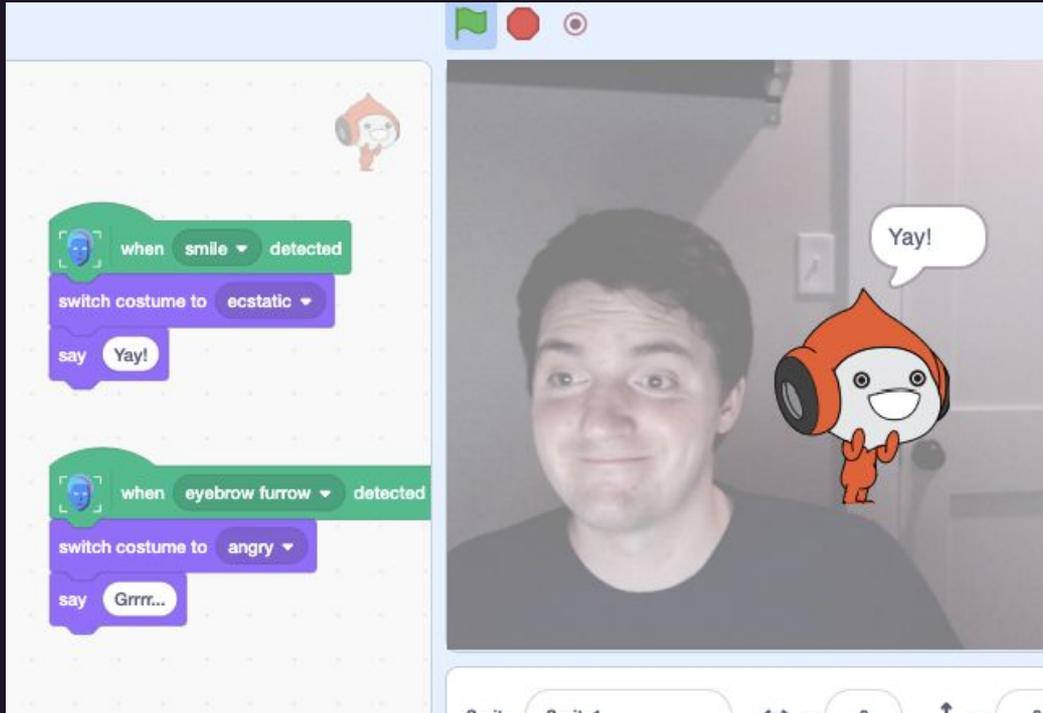
Affectiva - Face Modeling



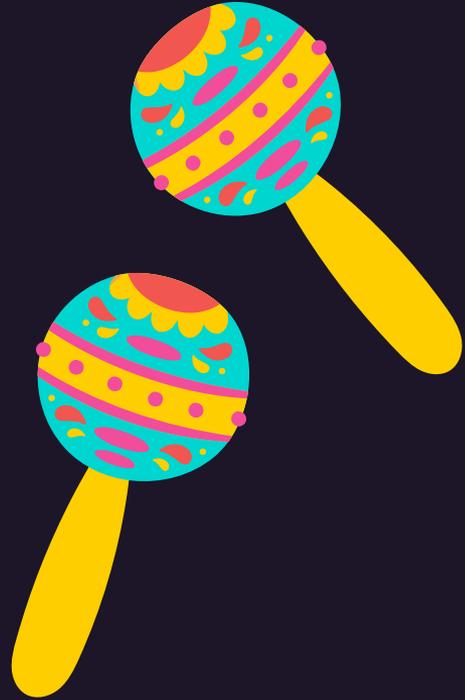
Adding face blocks to Scratch



Example with Face Modeling



***Shake
Break!***



Let's Try It!



- Go to <https://mitmedialab.github.io/prg-extension-boilerplate/create/>
- Follow along with me and we'll make a few PoseBlocks mini projects together!



Seeing What We Want to See



1. The AIs you created today are based on data of human faces and body parts - what would happen if you **put on a mask or costume** while testing them?



2. What would happen if you used your AI **on your favorite animal** instead of humans? Would your model work better/worse than with the mask?

Your model is going to behave differently - and maybe badly - as soon as it comes across data it can't recognize.

I'm So Happy to See You...Maybe?

I've just moved into a big, fancy apartment that I can't wait to show off to my friends. My door has an AI lock on it that I can program to open when it detects a **particular object** in front of it.

I take a bunch of pictures of **my happy, smiling face** and train the AI to open when it sees a **human face** based on those pictures.

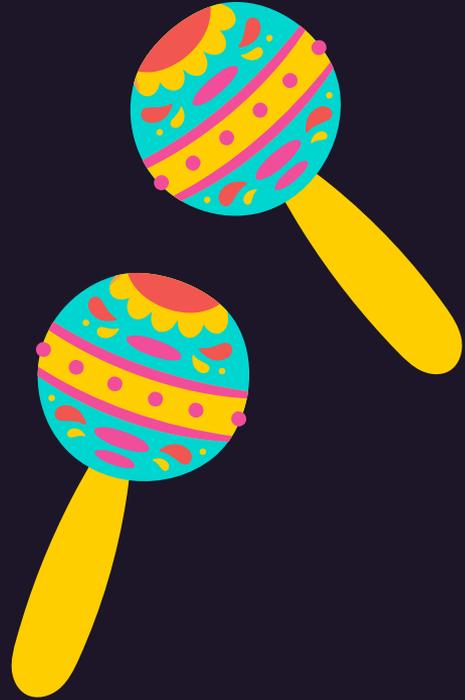
What are some reasons why my lock might not open for my friends?



*Those reasons you came up with are examples of **AI bias** - another reason modern AI can fail in the real-world.*

*Bias is a BIG part of discussions on **AI ethics**.*

Great Job!



Acknowledgements and Attribution

This curriculum was adapted from “Dancing with AI” curriculum from the MIT Media Lab, licensed as CC-BY-NC under Creative Commons (link on slide 1). “Dancing with AI” was created by the Personal Robots Group at the MIT Media Lab.

Slides taken directly from “Dancing with AI” curriculum or those with few alterations are marked with a footnote, with the original slide identified.

All other slides are either created by Jazmin Collins (using templates and graphics from “Dancing with AI”) or largely altered from their original form to fit the “Movement and Visual AI” lesson plan.