RLP-AIDA · RLP AI Design A — Machine Learning, Media and the Human Body

Unit 2: Human-Centered AI: History, Ethics and Authorship

Practice Workbook. The same problems, in the same order, as the Practice sections of the online lessons.

Name _____ Period _____

Lesson 2.1 — Drawing Time: Timeline Design and the History of AI

FLUENCY

1. Give the year for each milestone: (a) Turing's 'Computing Machinery and Intelligence'; (b) the Dartmouth workshop; (c) ELIZA described by Weizenbaum; (d) Deep Blue defeats Kasparov; (e) AlexNet wins ImageNet.

2. Define *expert system*, *AI winter* and *deep learning*, and give the lesson's example for the first term.

3. What design choice made Priestley's 1765 Chart of Biography new, and what limit does the lesson point out?

APPLICATION

4. A to-scale timeline runs from 1950 to 2022 at 2 cm per year. How far from the start should these events be placed: Dartmouth (1956), MYCIN-era work (draw at 1972), IDx-DR (2018), ChatGPT (2022)?

5. How many years passed between the Dartmouth workshop and the FDA's 2018 authorization of IDx-DR? What story does the lesson say that gap can tell?

6. Two designers draw the same 12 AI milestones. Designer A spaces them evenly; Designer B draws them to scale. Which one shows the long gap between 1966 and 1986, and which one is better for showing only the order of events? Explain.

7. Sort these into the lesson's three-part rhythm (rule-based systems; learning from data; very large models on very large datasets): MYCIN, AlexNet, ChatGPT, backpropagation popularized in 1986, AlphaFold 2.

REVIEW

8. Review 1.1: Which of Nightingale, Minard and Neurath combined time with other data on one image, and what did time run along?

Lesson 2.2 — Verified Event Cards: Building a Physical Timeline Storyboard

FLUENCY

1. Define *invention* and *innovation*, and classify: (a) the perceptron in the late 1950s; (b) deep neural networks screening retinal images in clinics.
2. List the four parts of an event card and the length limit for the headline.
3. If 70 years run along a 140 cm string, how many cm is one year? How far from the start is an event 25 years after the start?

APPLICATION

4. The two sources for PET do not give one exact year for the first machine, but the first scholarly articles appeared in 1975. Write the date line for a card about the first St. Louis PET machine, and explain your choice.

5. In the PET story, which part is the invention and which part is the innovation?

6. Rank these sources for an event card from strongest to weakest and say how you would use the weakest: a Wikipedia article; an FDA decision summary; a university's own history page that cites the original paper.

7. IDx-DR is described as combining three things. Name them, and explain why this makes it an innovation rather than a single invention.

8. Your string holds 14 event cards, but your storyboard should have one slide per idea, not one per event. Describe two decisions you would make when turning the string into slides.

REVIEW

9. Review 2.1: A card says 'ELIZA, 1966'. Name the person and institution the lesson gives, and one line on why it matters.

Lesson 2.3 — Who Is Responsible? Bias and Human-Centered AI in Medicine

FLUENCY

1. Define *human-centered AI*, *proxy label* and *stakeholder*.
2. List the five checkpoints the lesson gives for where bias enters a system.
3. What did the FDA's 2021 safety communication say about pulse oximeters, and why does it matter for AI even though an oximeter is not AI?

APPLICATION

4. Explain the 2019 Obermeyer case in 3 sentences: what the algorithm predicted, why that produced bias, and what reduced the bias.

5. Write one sentence restating each of these positions so that someone who holds it would accept it as fair: (a) developers bear primary responsibility; (b) imperfect AI may still reduce harm.

6. A hospital buys a skin-image classifier tested only on patients at one clinic. Using two of the five bias checkpoints, name two questions the hospital should ask before using it.

7. Your 250-word position statement argues that regulators bear the most responsibility. Write the two sentences in which you name the strongest argument against your view and answer it.

REVIEW

8. Review 1.2: In the cell-card lab, a model trained only on red sickle cards might learn color. How is that like the pulse oximeter problem?

Lesson 2.4 — Authorship and AI Imagery: Making the Presentation Yours

FLUENCY

1. Define *public domain*, *CC0* and *CC BY*.

2. For each image source, say whether you may use it and what you must do: (a) an NIH image; (b) a Rijksmuseum open-access painting; (c) an OpenStax figure; (d) an image from a general web search.

3. In 2023 the Copyright Office registered Zarya of the Dawn. What parts did it protect and what parts did it not?

APPLICATION

4. Rewrite these topic-label headlines as full sentences that state a point: (a) 'Screening'; (b) 'The 1956 workshop'.

5. A student used a no-account image tool, with a parent's permission, to make a background texture, then cropped it and painted over it. Write the AI-use disclosure line for the credits.

6. According to the Copyright Office's 2025 report, which of these could be protected: (a) the output of a single prompt; (b) a student's hand-painted modifications to AI output; (c) the student's selection and arrangement of slides; (d) the student's recorded narration?

7. A presentation has 9 slides and you record one take per slide. If each slide's narration is 35 seconds, how long is the narration in minutes and seconds? Why does the lesson recommend one slide per take?

CHALLENGE

8. Write a 4-sentence paragraph for your presentation's credits page that states the ethical debate about image generators fairly, without taking a side.

REVIEW

9. Review 2.2: Your presentation uses one color for inventions and another for innovations. Which lesson-1.4 rule about palette does this follow?

Unit 2 checkpoint

1. Which event is usually taken as the founding of AI as a field?
   A. Turing's 1950 paper
   B. The 1956 Dartmouth summer workshop
   C. Deep Blue's 1997 win
   D. AlexNet in 2012
2. A period of reduced funding and interest after expectations were not met is called an AI _____.
3. True or false: A timeline drawn to scale shows long gaps and sudden bursts that even spacing hides.
4. In 2018 the FDA authorized IDx-DR. What did it describe as new about it?
   A. It was the first AI chatbot for doctors
   B. It was the first device authorized to give a screening decision for diabetic retinopathy without a clinician interpreting the image
   C. It was the first PET scanner
   D. It replaced all eye doctors
5. Which is an innovation rather than an invention?
   A. The first working perceptron
   B. The first PET machine in St. Louis
   C. Commercial PET systems used in hospitals everywhere
   D. Turing's imitation game proposal

6. If 60 years run along a 120 cm string, each decade takes _____ cm.
7. True or false: Wikipedia is a good source to cite on an event card.
8. In the 2019 Science study, what was the algorithm's label?
   A. Race
   B. Future health-care costs, used as a stand-in for health needs
   C. Blood-oxygen readings
   D. Clinician ratings
9. True or false: For an algorithm to be biased, someone must have intended it to harm a group.
10. Under the Copyright Office's position, an image produced entirely by an AI tool from a short prompt is:
    A. Owned by the person who wrote the prompt
    B. Not copyrightable
    C. Owned by the museum
    D. Automatically CC BY
11. A slide headline should be a full _____ that states the point, not a topic label.

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