1.

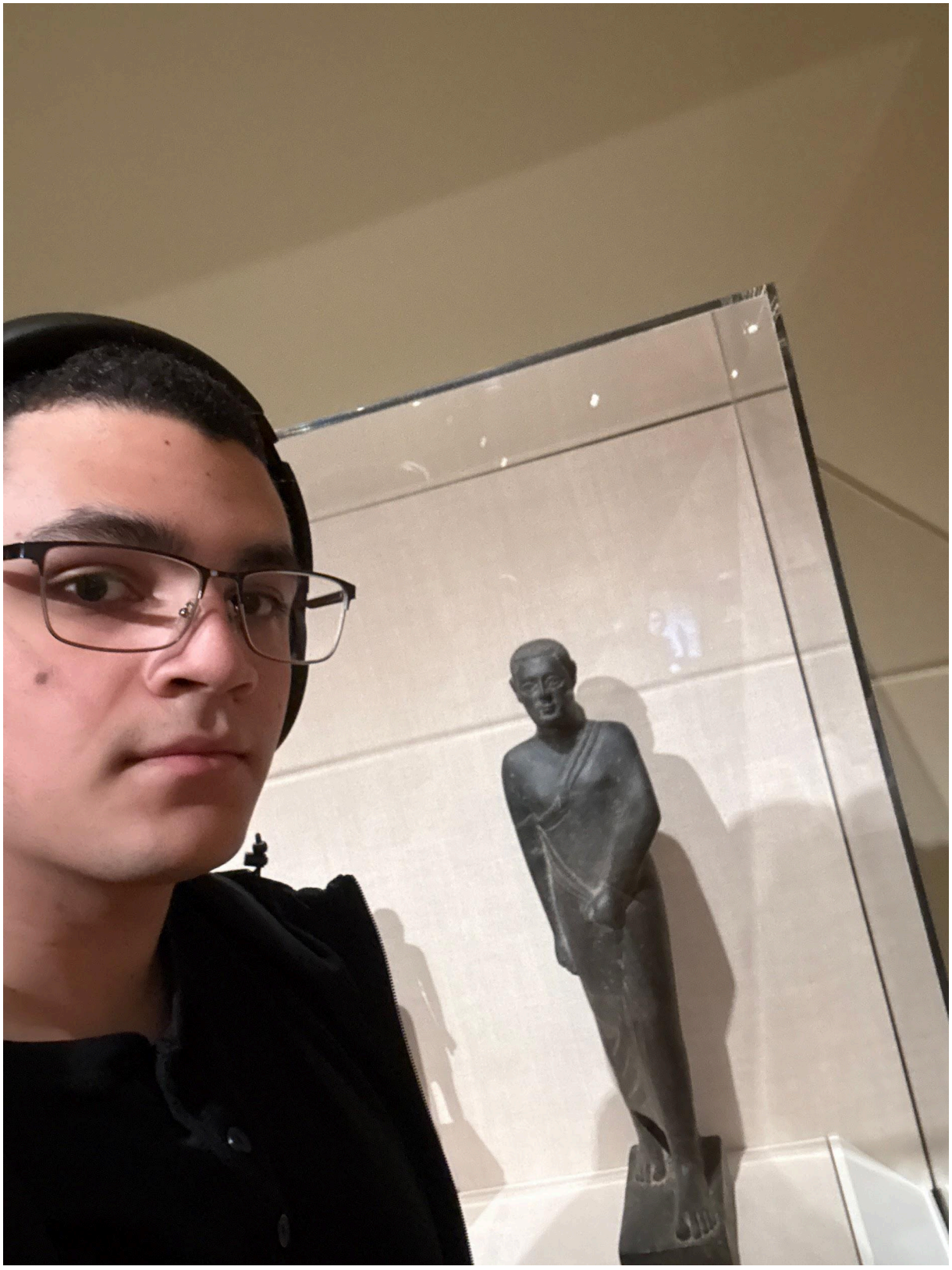
A. Find Apollo the Python-Slayer. Upload a selfie in front of the statue.

B. Read this short NY Times article: Cleveland Museum of Art Apollo with intriguing past. Why does the museum consider this sculpture to be particularly important? Why was the museum's acquisition of the structure controversial?

The sculpture is considered particularly important because it is believed to be the world's only original work by the ancient Greek sculptor, Praxiteles. The museum's acquisition of the structure was controversial due to the ownership history of the work. Not all of the information about how the sculpture was collected has been shared by the museum, and many scholars say that sketchy dealers were involved in the transaction. The roots of the purchase can be traced back to looters and smugglers who have since been convicted, implying that the museum's acquisition was unjust due to the poor history.

2.

A. Find the Egyptian Statue of a Man. Upload a selfie in front of the statue.



B. Read this short NY Times article: Cleveland Museum of Art to Return. Why is the Cleveland Museum of Art planning to return the statue to Libya, and why are they not doing it immediately?

The statue is very rare and was smuggled to the CMA by thieves in 1991. Recently, curators received strong evidence that the item was stolen from Libya, and thus the museum agreed to transfer ownership rightfully to Libyan officials. Libya consequently allowed the museum to keep the work on a loan, which CMA hopes to do for around 5 more years. The CMA also is trying to set a good example by not having to be pressured by law enforcement to return stolen art.

3.

A. Find the Benin Ancestral Commemorative Head. Upload a selfie in front of this object.

B. Watch from 6:00 to 12:00 of the movie Invasion 1897. What is the argument made by the defendant in the trial, and how does it relate to the Ancestral Commemorative Head in the Cleveland Art Museum?

The defendant in the trial pleads innocent, arguing that he was attempting to return lost/stolen property. He asks if the judge would try to take back her wig and robe if she found them to be in the possession of another. The judge stands by her ownership of her belongings, and the defendant attempts to use this to argue that the artwork is his and belongs to his people. The Ancestral Commemorative Head was taken from Benin altars many years ago, and thus someone could make the same argument as the man in the movie. Just because the CMA has the work in their museum doesn't mean it rightfully belongs to them.

4.

A. Find the Time (from Chateau de Chaumont set) tapestry. Upload a selfie in front of the tapestry.

B. Read the highlighted text (12 sentences, on pages 1 and 2), and look at Figs 1 and 6 of the article below. What is the key protein that provides structural integrity of wool tapestries, what bonds does this protein form that are important for this structural integrity, and what does Figure 6 demonstrate in this regard?

Wool fibers are reinforced by wool keratin proteins which are high in cystine content. These amino acids have di-sulfide crosslinks (which form through disulfide oxidation - and whose mechanism is unknown) which are important for their structural integrity. Ultimately, the integrity of the protein backbone and crosslinks are the most important factors in the integrity of the wool. Figure 1 suggests that ultraviolet light breaks down disulfide bonds and creates cysteic acid. Figure 6 uses this idea to show the difference between unaged, artificially aged, and historically aged wools. The presence of Cysteic acid in the historic wool compared to the other variants shows the important effect the acid has on the longevity of the fibers. Moreover, it reinforces the proposed mechanism discussed both in the highlighted section and in Figure 1.

5.

A. Find El Greco's Christ on the Cross. Upload a selfie in front of the painting.

B. Read the highlighted paragraphs of this article (on pages 2, 9 and 11): PATCH a deep learning method to assess heterogeneity. What question are they exploring regarding Christ on the Cross, what data do they use as input for the machine learning analysis (see last highlighted paragraph on page 2), and what conclusion do they reach about Christ on the Cross?

The researchers are exploring whether Christ on the Cross was created by a single artist or involved contributions from multiple hands. They used data gathered from optical profilometry, a technique that creates a topographic image at microscopic resolution over the entire painting. These data included the surface topography and the topography of pigmented layers beneath the transparent varnish layer. Despite possible effects of damage on the work, the researchers concluded that *Christ on the Cross* is the work of a single artist who may have had some variation in practice over time.

6.

A. Find Jeptha Wade's portrait of Nathaniel Olds. Upload a selfie in front of the painting.

B. Jeptha Wade was one of the founders of Western Union, which dominated the telegraph system in the U.S. throughout the late 1800s and continues to operate today as a financial institution. Wade became one of the wealthiest people in the country and is the eponym of Wade Park, Wade Oval, Wade Lagoon, Wade Commons, etc. Read the short excerpt of his biography: jh wade autobiography excerpts

i. Why did Wade leave his previous job to become a portrait painter, and why did he leave his job as a portrait painter to go into the telegraph industry?

Wade originally left his previous job as his health was rapidly failing and he couldn't do much more than oversee and give directions, which he did not feel suited him. He then tried to become a portrait painter under Randall Palmer, who was visiting for a short period. He then worked as a painter, but became unhappy with his health as it was being negatively impacted by not being able to get exercise or go outside. Another important factor was the prospects he saw in the telegraph industry, saying "I had never seen such a good thing". Thus, he gave up being a painter and accepted a job in the telegraph industry. This proved good for his health, neither too strenuous nor boring, and was economically viable.

ii. What are the two inventions Wade mentioned that he did not patent but later wished he had?

One of the inventions was a lightning arrestor which prevents lightning from coming in without interrupting the telegraph current or the lines' functionality. The other invention was covering cables with reinforced wires (to solve an issue where storms would lay waste to many cables), which allowed the lines to cross rivers and large bodies of water previously thought to be impossible.

7.

A. Find Van Gogh's Two Poplars in the Alpilles near Saint-Rémy. Upload a selfie in front of the painting.

B. Read the four highlighted paragraphs of this article (on pages 112 and 121): Weave matching and dating of Van_Goghs. What is the technology used in this study, what information does the technology give, and how did this analysis of this Two Poplars painting help settle the controversy of when and where Van Gogh created his "Wheat Stacks in a Cloudy Sky" painting?

The technology used in this study is Fourier spectral analysis, applied to X-radiographs of paintings on canvas. This technology gives thread density maps across the canvas (horizontal and vertical), weave matching information (tells researchers if canvases have originated from the same roll), and dating/location information from any found matches in the weave analysis. "Wheat Stacks in a Cloudy Sky" had long debated if Van Gogh painted it in Saint-Rémy or in Arles. The technology found a weave match with the Two Poplars painting, which is known from historical letters to have been created before the beginning of October 1889. Furthermore, "Wheat Stacks in a Cloudy Sky" depicts a wheat stack inside the asylum walls, confirming that it was created in Saint-Rémy rather than Arles or Auvers. Ultimately, the technology helped end the debate and placed the origin of the work around 1889 in Saint-Rémy.

8.

A. Find Andy Warhol's Marylin x100. Upload a selfie in front of the picture.

B. Read this short NPR article about a different one of Warhol's works. What is the relevant intellectual property issue in this article, how was it decided by the US Supreme Court, and how does it relate to the Marylin x 100 picture?

The relevant intellectual property issue in this article is copyright infringement and the scope of the fair use doctrine in the context of transformative works. The case concerns whether Andy Warhol's use of Lynn Goldsmith's 1981 photograph of Prince in his series of silk screen images was transformative enough to qualify as fair use. In a 7-2 ruling, the U.S. Supreme Court ruled Andy Warhol infringed on photographer Lynn Goldsmith's copyright and that it did not qualify as fair use. This case is related to the "Marylin x 100 picture", raising questions about whether the work would be considered copyright infringement under the same reasoning. the case sets a precedent for artists who have produced transformative works believing them to fall under fair use.

9.

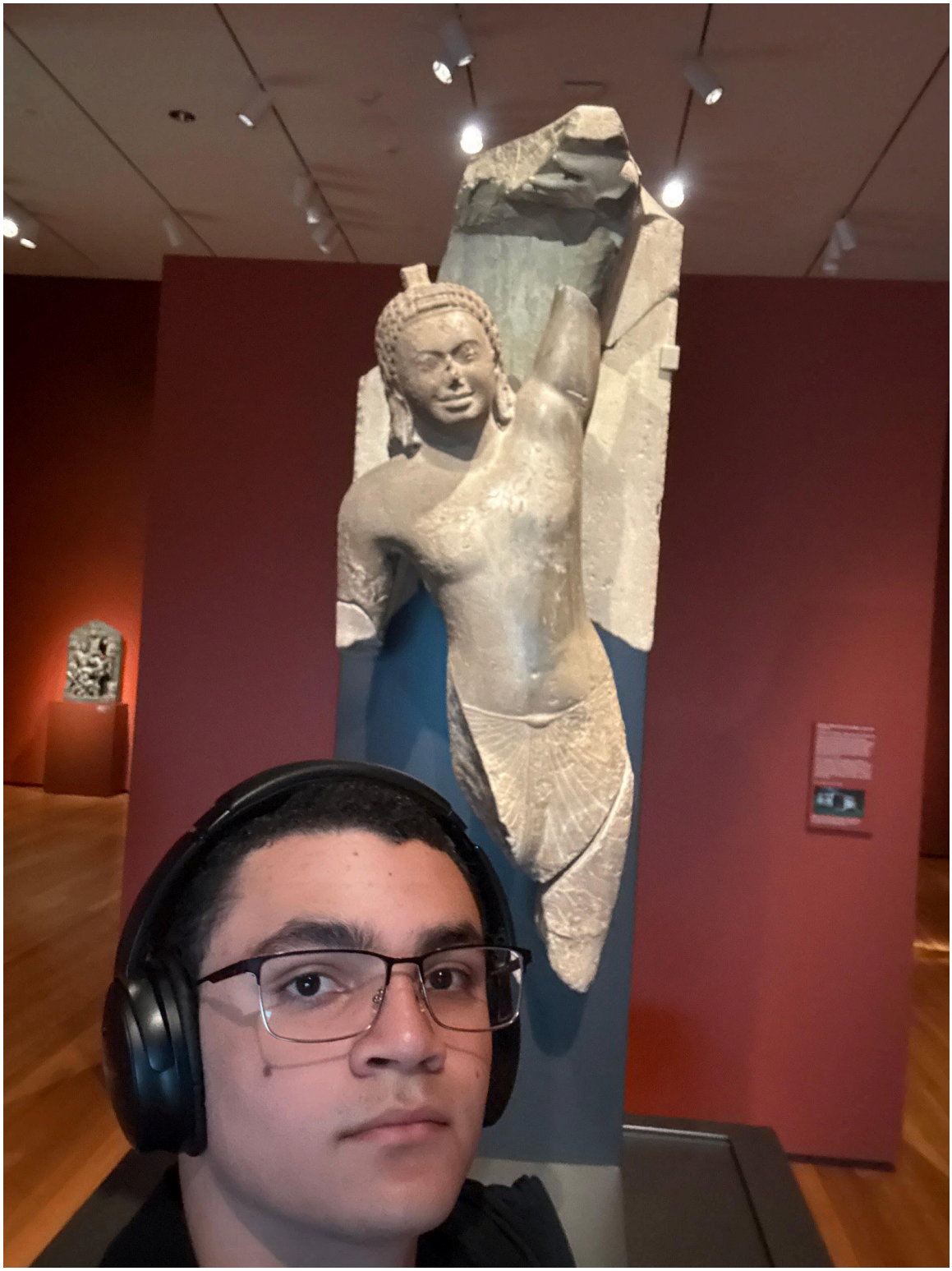
A. Find the Vessel with Ballplayer. Upload a selfie in front of the vessel.

B. Read the three highlighted paragraphs of the article: Prehistoric polymers rubber processing in ancient mesoamerica-1.This article explains how ancient Mesoamericans were the first "polymer scientists". They developed a chemical process to transform the mechanical properties of dried latex, turning it from a brittle solid into a flexible rubber (which was used to create the ball shown on the vessel). What process did they use to alter the mechanical properties, and what chemical changes were involved in these transformations?

To alter the mechanical properties, they mixed the latex with liquid extracted from Ipomoea alba (a species of morning glory vine), significantly enhancing the elasticity and durability of the resulting rubber. About 50 ml of the I. alba liquid extract was mixed with about 750 ml of the latex for about 15 minutes, which then turned into a white solid mass which could be molded and shaped into the desired product. Chemically, organic components in I. alpha resulted in purification of the polymer component and an increase in the strength and number of interchain interactions. Also, the process resulted in a much less brittle product when compared to the dried latex they used as a raw material.

10.

A. Find Krishna Lifting Mount Govardhan. Upload a selfie in front of the statue.



B. Watch this video about the Krishna sculpture. What was the technology used to determine that the hand belonged to the Cleveland Krishna, and what generated the goodwill that led to the hand being sent from Cambodia to Cleveland?

To determine that the hand belonged to the Cleveland Krishna, conservations used 3D imaging technology from CWRU, combined with 3D printing technology to generate a model of the hand. They also used petrographic studies to originally speculate the ownership of the hand. It was 3D printing that allowed the team to finally connect the dots, however. The CMA director made arrangements to return the sculpture of the Monkey God to Cambodia, as it was found to have been looted in its original acquisition. This gesture, reunifying the Monkey God to its rightful owner, resulted in Cambodia giving the hand to the CMA.