

MICHIGAN STATE

UNIVERSITY

Alpha Presentation

Badge Image Validation Tool

The Capstone Experience

Team Amazon

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*From Students...
...to Professionals*

Project Overview

- Validates employee badge image against requirements
- Saves time for new hires and verification team
 - Instant feedback on proposed badge photos using machine learning
 - Accelerates new employee onboarding at Amazon
- Decreases invalid images sent to verification team



System Architecture

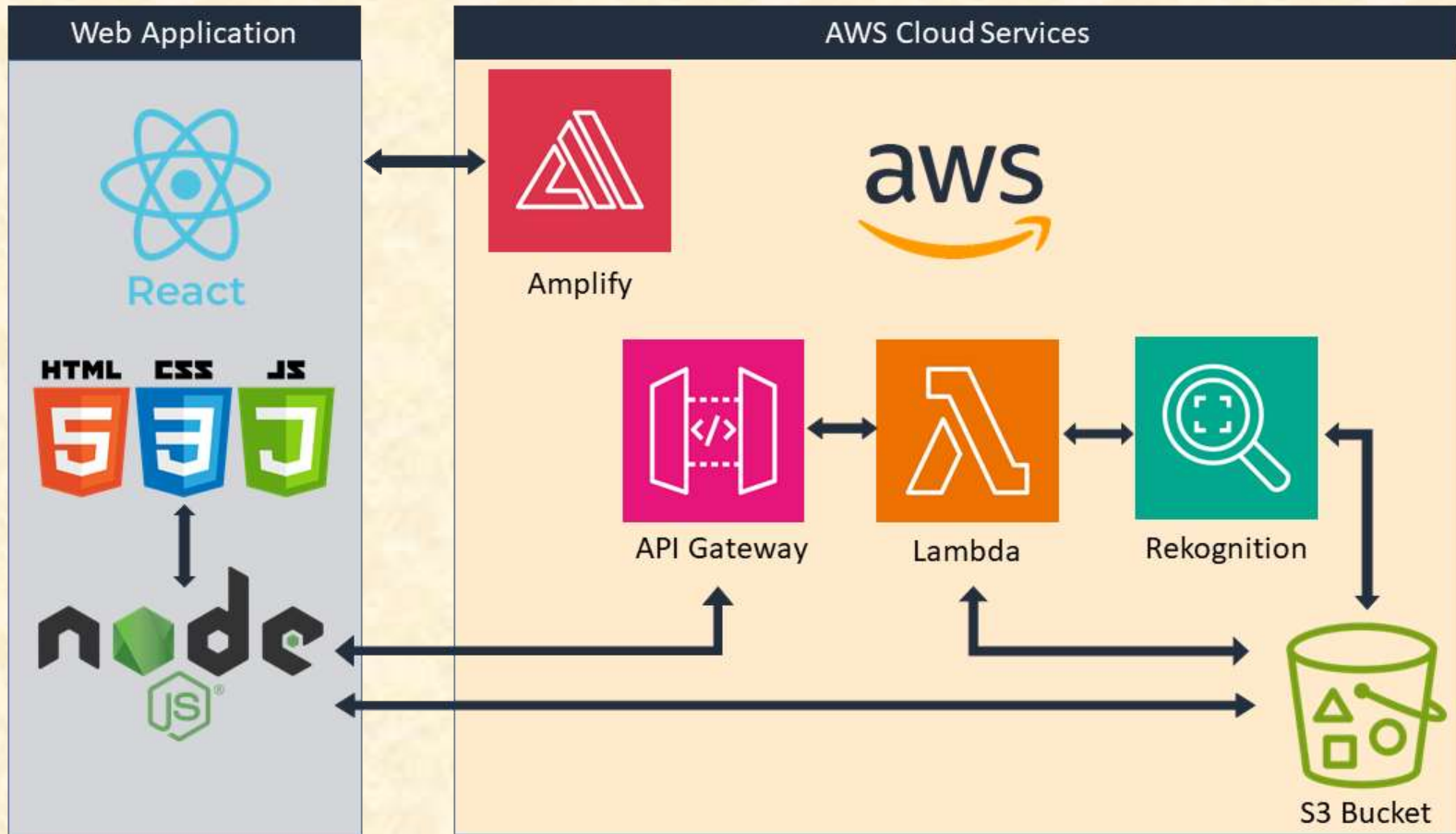


Photo Requirements Examples

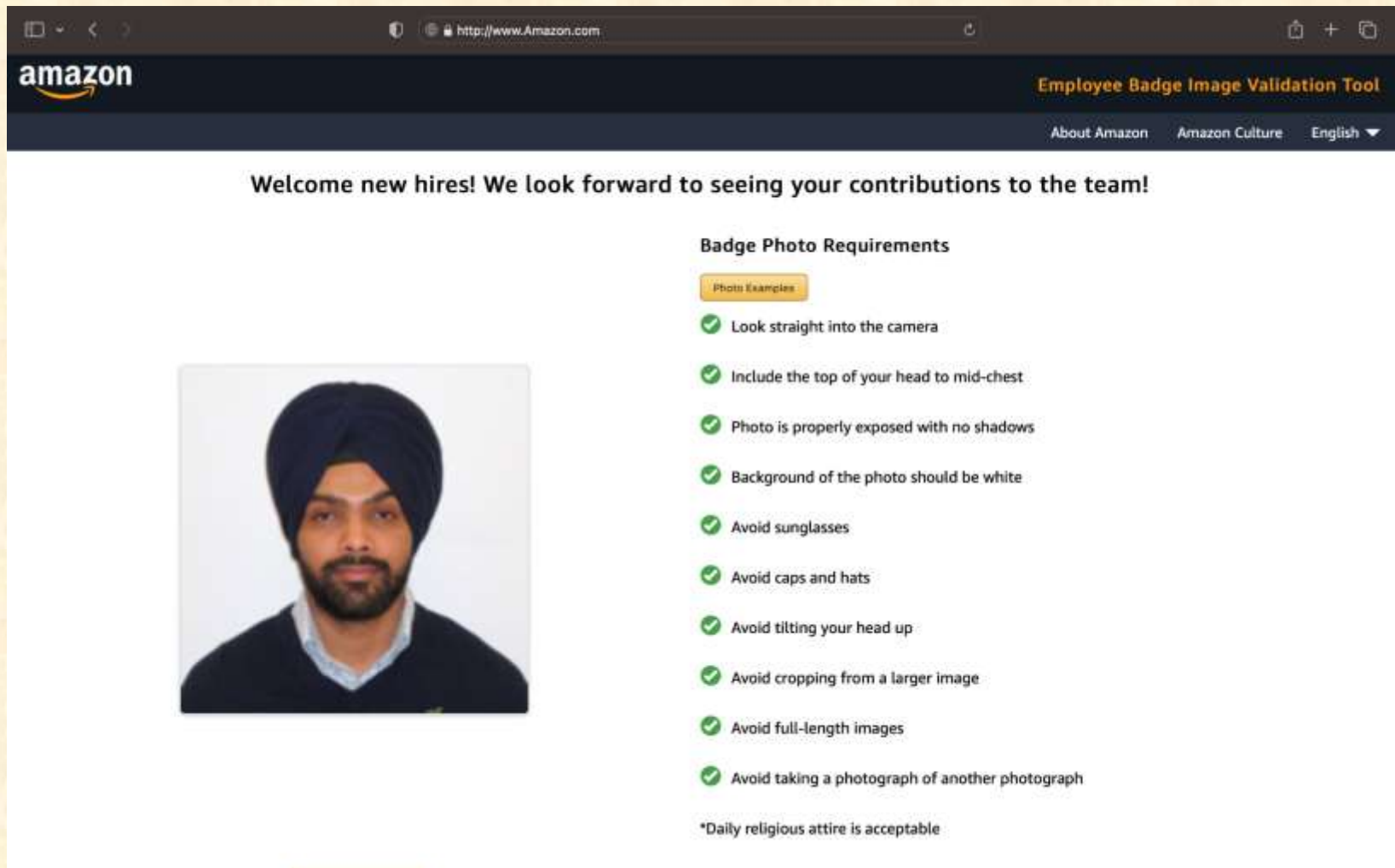
The screenshot displays the Amazon Employee Badge Image Validation Tool interface. The browser address bar shows 'http://www.Amazon.com'. The page title is 'Employee Badge Image Validation Tool'. The main content area is titled 'Photo Requirements Examples' and features three examples of photos with accompanying text and status indicators:

- Example 1 (Acceptable):** A photo of a man wearing a dark turban and a dark sweater. A green checkmark is overlaid on the bottom right of the photo. The text reads: "This photo is an example of an acceptable badge photo that meets all of the requirements. Note that daily religious attire is acceptable".
- Example 2 (Unacceptable):** A photo of a man with a beard and short hair, wearing a light-colored shirt. A large red 'X' is overlaid on the bottom right of the photo. The text reads: "This photo does not pass the requirement for no shadows in the background and therefore is an unacceptable badge photo.".
- Example 3 (Unacceptable):** A photo of a woman with dark curly hair, wearing a light-colored shirt. A large red 'X' is overlaid on the bottom right of the photo. The text reads: "This photo does not pass the requirement that the person must be centered in the photo and therefore is an unacceptable badge photo.".

Other visible text on the page includes 'Welcome new', 'Drag & drop a photo here, or click th', 'About Amazon', 'Amazon Culture', 'English', 's to the team!', 'hest', 'adows', 'white:', and 'r photograph'.



Acceptable Image Upload



The screenshot shows a web browser window with the Amazon logo and the title "Employee Badge Image Validation Tool". The page content includes a welcome message for new hires, a section for "Badge Photo Requirements" with a list of 10 items, and a note that "Daily religious attire is acceptable". A photo of a man wearing a dark blue turban and a dark sweater is shown as an example of an acceptable upload.

amazon

Employee Badge Image Validation Tool

About Amazon Amazon Culture English

Welcome new hires! We look forward to seeing your contributions to the team!

Badge Photo Requirements

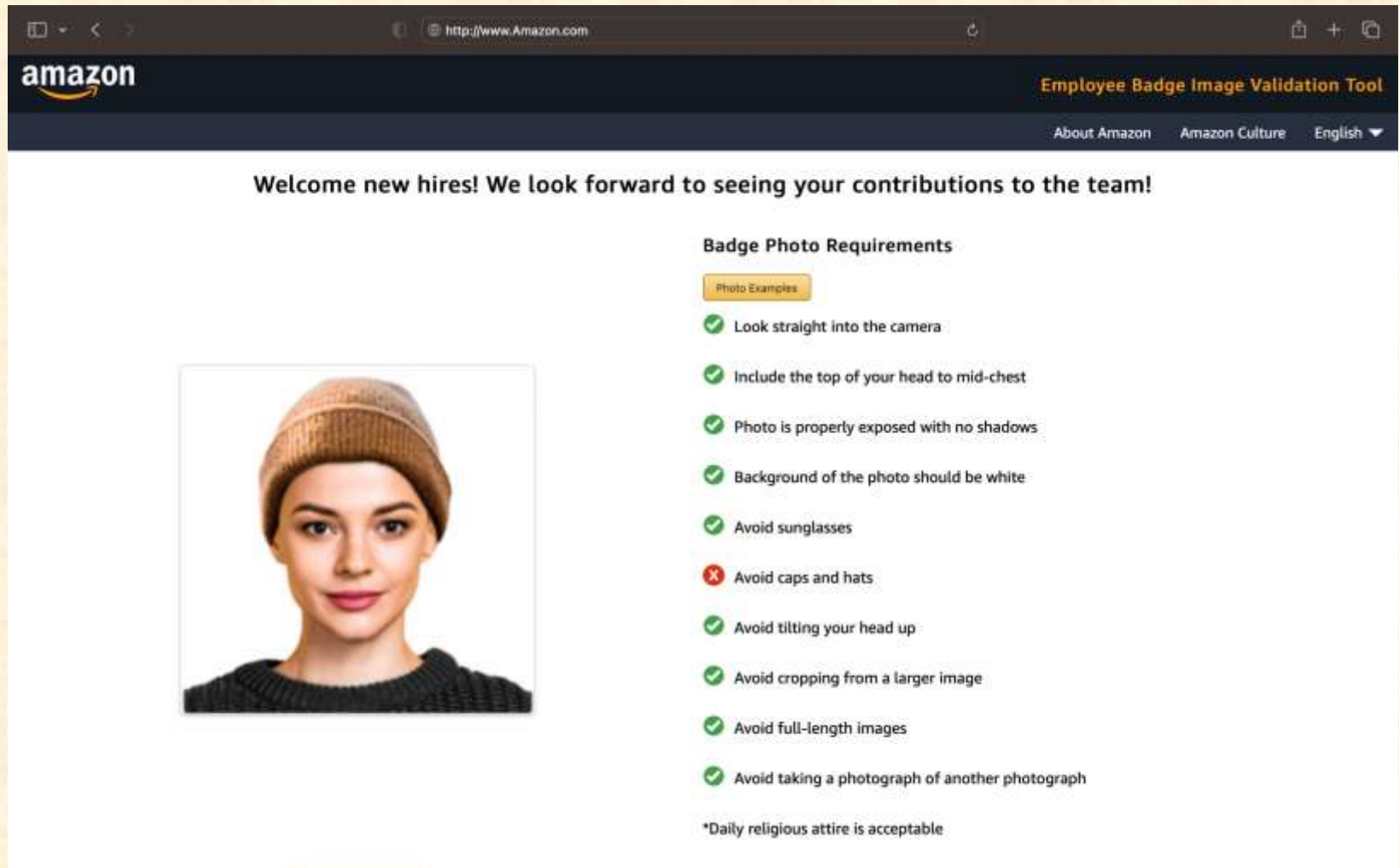
Photo Examples

- ✓ Look straight into the camera
- ✓ Include the top of your head to mid-chest
- ✓ Photo is properly exposed with no shadows
- ✓ Background of the photo should be white
- ✓ Avoid sunglasses
- ✓ Avoid caps and hats
- ✓ Avoid tilting your head up
- ✓ Avoid cropping from a larger image
- ✓ Avoid full-length images
- ✓ Avoid taking a photograph of another photograph

*Daily religious attire is acceptable



Unacceptable Image Upload



The screenshot shows a web browser window with the URL <http://www.Amazon.com>. The page title is "Employee Badge Image Validation Tool". The Amazon logo is in the top left, and navigation links for "About Amazon", "Amazon Culture", and "English" are in the top right. The main heading reads "Welcome new hires! We look forward to seeing your contributions to the team!". Below this is a section titled "Badge Photo Requirements" with a "Photo Examples" button. A list of requirements follows, with a red 'X' icon next to "Avoid caps and hats". To the left of the list is a photo of a woman wearing a brown beanie, which is the example being highlighted as unacceptable.

amazon

Employee Badge Image Validation Tool

About Amazon Amazon Culture English

Welcome new hires! We look forward to seeing your contributions to the team!

Badge Photo Requirements

Photo Examples

- ✓ Look straight into the camera
- ✓ Include the top of your head to mid-chest
- ✓ Photo is properly exposed with no shadows
- ✓ Background of the photo should be white
- ✓ Avoid sunglasses
- ✗ Avoid caps and hats
- ✓ Avoid tilting your head up
- ✓ Avoid cropping from a larger image
- ✓ Avoid full-length images
- ✓ Avoid taking a photograph of another photograph

*Daily religious attire is acceptable



Detected Tags Output

The screenshot shows the Amazon Employee Badge Image Validation Tool interface. The browser address bar displays `http://www.Amazon.com`. The page title is "Employee Badge Image Validation Tool". The Amazon logo is in the top left, and navigation links for "About Amazon", "Amazon Culture", and "English" are in the top right. A welcome message reads: "Welcome new hires! We look forward to seeing your contributions to the team!".

The main section is titled "Badge Photo Requirements". A "Photo Examples" button is present. A list of requirements is shown, with a green checkmark next to "Look straight into the camera". A white tooltip box is overlaid on the photo, displaying the following detected labels and their percentages:

- Beachwear (99.99%)
- Clothing (99.99%)
- Face (99.97%)
- Happy (99.97%)
- Head (99.97%)
- Person (99.97%)
- Smile (99.97%)
- Photography (99.73%)
- Portrait (99.73%)
- Adult (98.74%)
- Male (98.74%)
- Man (98.74%)
- Hat (95.45%)
- Sleeve (87.24%)
- Laughing (56.85%)
- Accessories (56.57%)
- Sunglasses (56.57%)
- Dimples (56.53%)

A "Close" button is located at the bottom right of the tooltip. Below the photo, a list of requirements is shown with a red 'X' next to "Avoid caps and hats", and green checkmarks next to "Avoid tilting your head up", "Avoid cropping from a larger image", "Avoid full-length images", and "Avoid taking a photograph of another photograph". A note at the bottom states: "*Daily religious attire is acceptable".



What's left to do?

- Establish continuous API Gateway connectivity, eliminating the need for redeployment before each usage
- Test and train our model to consistently yield confidence levels of 95 or higher
- Map each requirement to its respective custom label
- Identify the most efficient approach to leverage the existing detect labels model and our custom labels model effectively



Questions?

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