

# Vision Model Tests

## Test Footage Criteria:

Start with no person in frame.

Walk in frame then hold each pose for 3.5 seconds each. The poses are: Casual standing; T-pose forward, back, left and right; step left, step right; Arms together outwards left, right; leg up left and right; arms folded forward and back; kneeling with arms behind back.

Also jump left and right for manual picture taking to test how that handles movement.

Test wearing clothes that cover arms and legs, wearing clothes that don't.

Make sure each recording also involves time in between poses where subject is moving.

## Test in following locations:

Inside: Matte wall, in room, in dark room, with light bulb in frame

Outside: Against wall, in open area, with landscape in background, with sea in background, with plants behind.

## Reasons for each test criteria:

Casual standing: basic pose for reference

T-pose: classic pose and easy shape for reference. Great for testing every angle.

Steps: allows for a segmented pose with outline of legs and arms for a more complicated shape

Arms together: sees how model handles overlapping body parts

Arms folded: Body tucked into body, not as strong of outline

Kneeling: Tucks in both legs and arms

Jump: Tests movement and manual capture

Covering arms and legs vs not: Tests how clothes and exposed skin affects model

Movement time: To test that the model isn't too sensitive and takes frames even while moving.

Inside: Likely recording location and easier to control elements

Outside: Elements like lighting, clouds, wind, etc. are harder to control

Matte Wall: Control setting, ideal environment

In dark room: Sees how lack of light affects pose detection and background removal

Light bulb in frame: Tests how model handles glare

Against wall: Most control outside

Open Area: Tests how background removal not against a wall

Landscape: Lots of background elements but far away, sees how it handles multiple small movements

Sea: Constant small movements, variations and reflections that could mess with model

Plants: Lots of background movement in wind so might confuse model

Each will be tested for pose detection and background removal. They will be rated 1 to 10 on both. Pose detection will be rated based on: speed of detection, number of correct detections, number of missed detections, number of false detections. Background removal will be rated based on: clean outlines, if there is any background remaining, if there is anything removed that shouldn't.

## Inside

### Pose

Casual  
T-Pose Forward  
T-Pose Backward  
T-Pose Left  
T-Pose Right  
Step Left  
Step Right  
Arms Together In Left  
Arms Together Out Left  
Arms Together In Right  
Arms Together Out Right  
Arms Folded Forward  
Arms Folded Backwards  
Kneeling  
Balance Left  
Balance Right  
Extra?

### Did it detect?

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes: while out of frame and between T- pose and setting up balance left

## Inside Short Clothes

### Pose

Casual  
T-Pose Forward  
T-Pose Backward  
T-Pose Left  
T-Pose Right  
Step Left  
Step Right  
Arms Together In Left  
Arms Together Out Left  
Arms Together In Right  
Arms Together Out Right  
Arms Folded Forward  
Arms Folded Backwards  
Kneeling  
Balance Left  
Balance Right  
Extra?

### Did it detect?

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes: while out of frame, between T-poses

## Dark Room

### Pose

Casual  
T-Pose Forward  
T-Pose Backward  
T-Pose Left  
T-Pose Right  
Step Left

### Did it detect?

Yes  
Yes  
Yes  
Yes  
Yes  
Yes

Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: out of frame, closing door, in between poses 8 times including while getting up and jumping

### **Dark Room Short Clothes**

<b>Pose</b>	<b>Did it detect?</b>
Casual	Yes
T-Pose Forward	Yes
T-Pose Backward	Yes
T-Pose Left	Yes
T-Pose Right	Yes
Step Left	Yes
Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: out of frame, closing door, 10 times between poses

### **Light Bulb**

<b>Pose</b>	<b>Did it detect?</b>
Casual	Yes
T-Pose Forward	Yes
T-Pose Backward	Yes
T-Pose Left	Yes
T-Pose Right	Yes
Step Left	Yes
Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes

Balance Left	Yes
Balance Right	Yes
Extra?	Yes: Out of frame, between pose 5 times

### **Light Bulb Short Clothes**

<b>Pose</b>	<b>Did it detect?</b>
Casual	Yes
T-Pose Forward	Yes
T-Pose Backward	Yes
T-Pose Left	Yes
T-Pose Right	Yes
Step Left	Yes
Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: out of frame

### **Against Door**

<b>Pose</b>	<b>Did it detect?</b>
Casual	Yes
T-Pose Forward	Yes
T-Pose Backward	Yes
T-Pose Left	Yes
T-Pose Right	Yes
Step Left	Yes
Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: Out of frame, between poses 7 times

### **Against Door Short Clothes**

<b>Pose</b>	<b>Did it detect?</b>
Casual	Yes
T-Pose Forward	Yes

T-Pose Backward	Yes
T-Pose Left	Yes
T-Pose Right	Yes
Step Left	Yes
Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: Out of frame, between poses 10 times

### Open Area

Pose	Did it detect?
Casual	Yes
T-Pose Forward	No
T-Pose Backward	No
T-Pose Left	No
T-Pose Right	Yes
Step Left	Yes
Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: between 3 poses

### Open Area Short Clothes

Pose	Did it detect?
Casual	Yes
T-Pose Forward	Yes
T-Pose Backward	Yes
T-Pose Left	Yes
T-Pose Right	Yes
Step Left	Yes
Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	No
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes

Arms Folded Backwards	No
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: between pose 4 times

## Landscape

Pose	Did it detect?
Casual	Yes
T-Pose Forward	Yes
T-Pose Backward	Yes
T-Pose Left	Yes
T-Pose Right	Yes
Step Left	Yes
Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: Out of frame, between poses 2 times

## Landscape Short Clothes

Pose	Did it detect?
Casual	Yes
T-Pose Forward	No
T-Pose Backward	Yes
T-Pose Left	Yes
T-Pose Right	Yes
Step Left	Yes
Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: between poses 7 times

## **Landscape Far**

### **Pose**

Casual  
T-Pose Forward  
T-Pose Backward  
T-Pose Left  
T-Pose Right  
Step Left  
Step Right  
Arms Together In Left  
Arms Together Out Left  
Arms Together In Right  
Arms Together Out Right  
Arms Folded Forward  
Arms Folded Backwards  
Kneeling  
Balance Left  
Balance Right  
Extra?

### **Did it detect?**

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes: every chance it got. Only thing that stopped a capture would be wind.

## **Landscape Far Short Clothes**

### **Pose**

Casual  
T-Pose Forward  
T-Pose Backward  
T-Pose Left  
T-Pose Right  
Step Left  
Step Right  
Arms Together In Left  
Arms Together Out Left  
Arms Together In Right  
Arms Together Out Right  
Arms Folded Forward  
Arms Folded Backwards  
Kneeling  
Balance Left  
Balance Right  
Extra?

### **Did it detect?**

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes: every chance it got. Only thing that stopped a capture would be wind

## **Sea**

### **Pose**

Casual  
T-Pose Forward  
T-Pose Backward  
T-Pose Left  
T-Pose Right

### **Did it detect?**

Yes  
Yes  
Yes  
Yes  
Yes



Step Left	Yes
Step Right	Yes
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: out of frame. Between poses 7 times. Glare from sun makes my body darker and thus does not notice my moves as much

### Sea Short Clothes

Pose	Did it detect?
Casual	Yes
T-Pose Forward	No Wind stopped it
T-Pose Backward	No
T-Pose Left	Yes
T-Pose Right	No
Step Left	Yes
Step Right	No
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	Yes
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	Yes: between poses 2 times.


### Plants

Pose	Did it detect?
Casual	No
T-Pose Forward	No
T-Pose Backward	No
T-Pose Left	No
T-Pose Right	No
Step Left	No
Step Right	No
Arms Together In Left	Yes
Arms Together Out Left	Yes
Arms Together In Right	Yes
Arms Together Out Right	No
Arms Folded Forward	No
Arms Folded Backwards	No


Kneeling	Yes
Balance Left	Yes
Balance Right	Yes
Extra?	No. Wind stopped any chance of this.


### **Plants Short Clothes**

<b>Pose</b>	<b>Did it detect?</b>
Casual	No
T-Pose Forward	Yes
T-Pose Backward	Yes
T-Pose Left	No
T-Pose Right	Yes
Step Left	Yes
Step Right	No
Arms Together In Left	No
Arms Together Out Left	No
Arms Together In Right	No
Arms Together Out Right	No
Arms Folded Forward	Yes
Arms Folded Backwards	Yes
Kneeling	No
Balance Left	No
Balance Right	No
Extra?	Yes: Out of frame

Background	Outfit	Wind	Extra	Pose Detection	Background Removal	Notes	Example
Inside	Long	None		9/10	7/10	Extra subtraction needed	
Inside	Short	None		9/10	8/10	Extra subtraction needed (not as much as long)	
Dark Room	Long	None	Only light is monitor glow	5/10	2/10	Too much subtraction and poor outline	
Dark Room	Short	None	Only light is monitor glow	4/10	3/10	Too much subtraction and poor outline but better than above	
Light Bulb	Long	None	Bottom cut off to get light bulb in frame	7/10	8/10	Needs more subtraction	
Light Bulb	Short	None	Bottom cut off to get light bulb in frame	9/10	8/10	Needs more subtraction	
Against Door	Long	Low		8/10	9/10	Needs a bit more subtraction in some images	
Against Door	Short	Low	Passerbys	7/10	9/10	Needs a bit more subtraction. Too eager pose detection.	

Open Area	Long	Mild	Bird	7/10	9/10	Needs a bit more subtraction	
Open Area	Short	Mild	Passerbys	8/10	9/10		
Landscape	Long	Mild		8/10	9/10		
Landscape	Short	Mild		7/10	8/10		
Landscape Far	Long	Mild		0/10	8/10	Too far for movement to be detected.	
Landscape Far	Short	Mild		1/10	1/10	Too far for person to be detected in frame and for movement to be detected	
Sea	Long	Strong		8/10	9/10	Needs a little more background subtraction	
Sea	Short	Strong		8/10	10/10	Near perfect background subtraction. Wind caused pose detection problems.	

Plants	Long	Mild	2/10	7/10	Too much sun glare for good cutout	
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Plants	Short	Mild	3/10	7/10	Too much sun glare for good cutout	
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