



UNIVERSITY OF ULSAN



ADVANCED TOPICS IN ERGONOMICS  
AND HUMAN FACTORS



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# SEMI-AUTOMATIC OWAS

# CONTENT

- I. Importing Image
- II. Selecting Condition
- III. Result
- IV. Back-end Flow
- V. Conclusion

# I. Importing Image

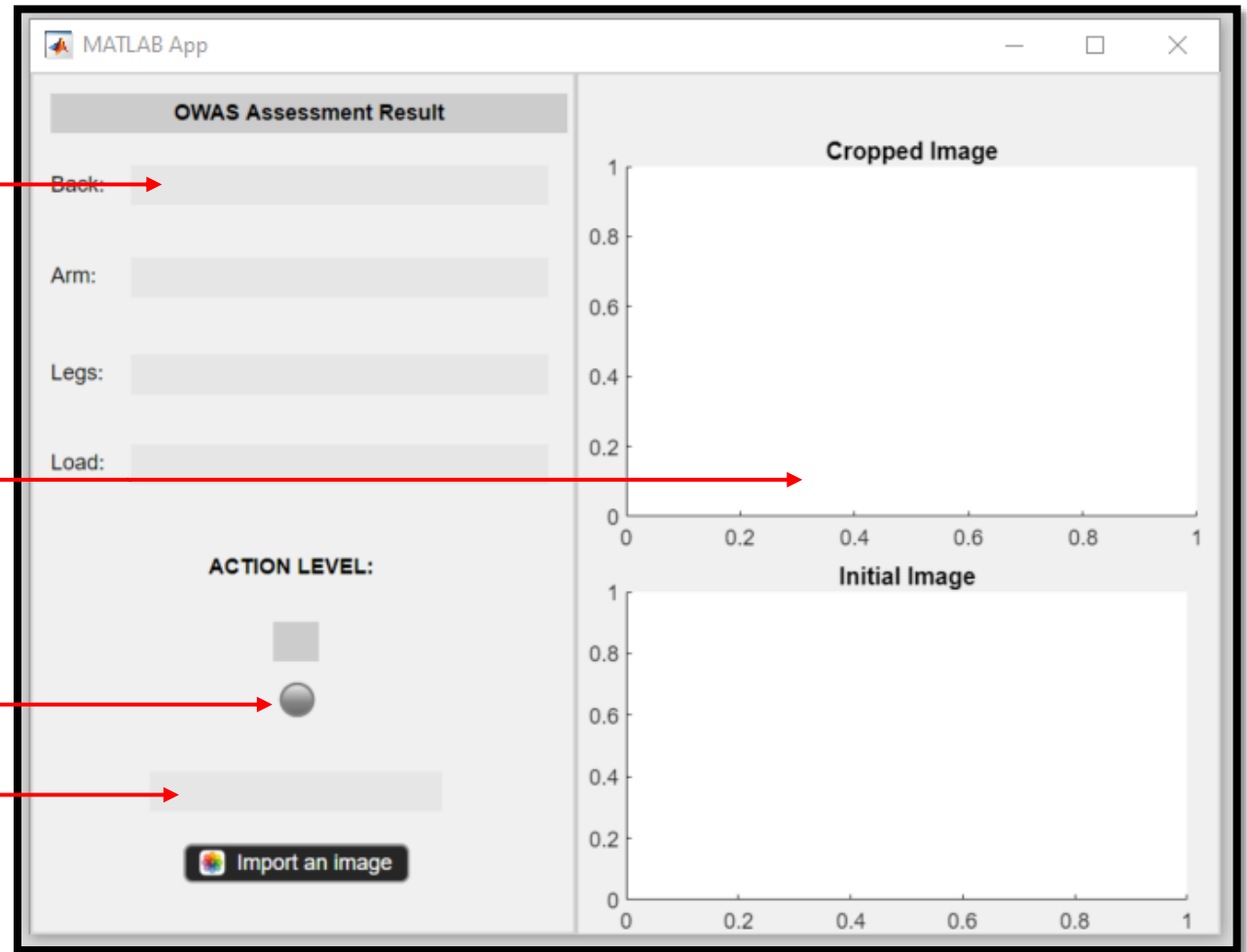
## □ Working images



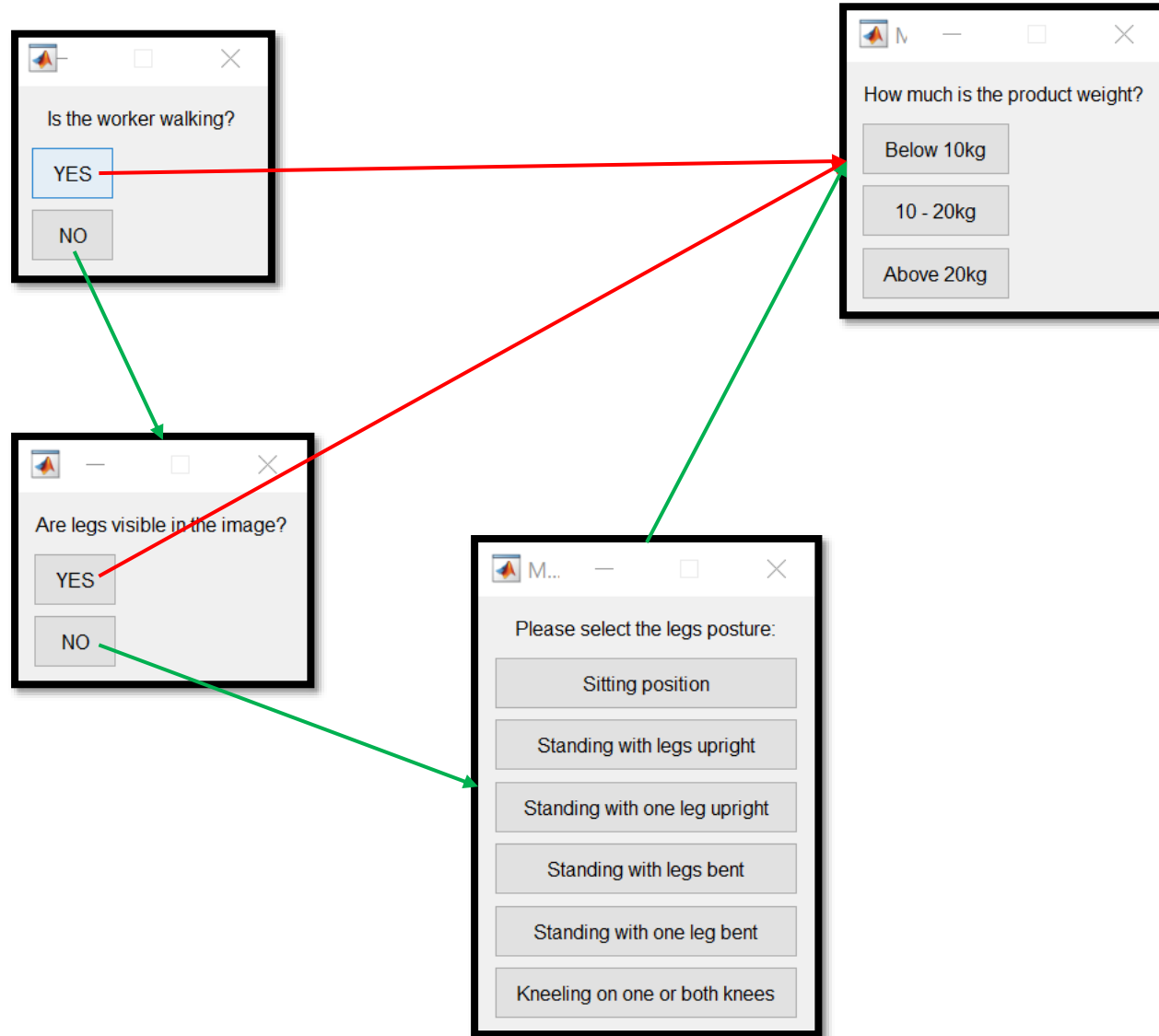
# I. Importing Image

## UI

- Display results
- Action level
  - Lamp color: 1, 2, 3, 4
- Image file name
- Display image



## II. Selecting Condition



### III. Result

**OWAS Assessment Result**

Back: [4]Leaning forward & Flexous

Arm: [1]Both below elbow joint

Legs: [4]Standing with legs bent

Load: [3]Above 20kg


**ACTION LEVEL:**

4


T1.jpg

Import an image

**Cropped Image**



**Initial Image**



**OWAS Assessment Result**

Back: [1]Upright

Arm: [2]One above elbow joint

Legs: [2]Standing with legs upright

Load: [3]Above 20kg


**ACTION LEVEL:**

1


T3.jpg

Import an image

**Cropped Image**



**Initial Image**



**OWAS Assessment Result**

Back: [1]Upright

Arm: [1]Both below elbow joint

Legs: [2]Standing with legs upright

Load: [1]Below 10kg


**ACTION LEVEL:**

1


T2.jpg

Import an image

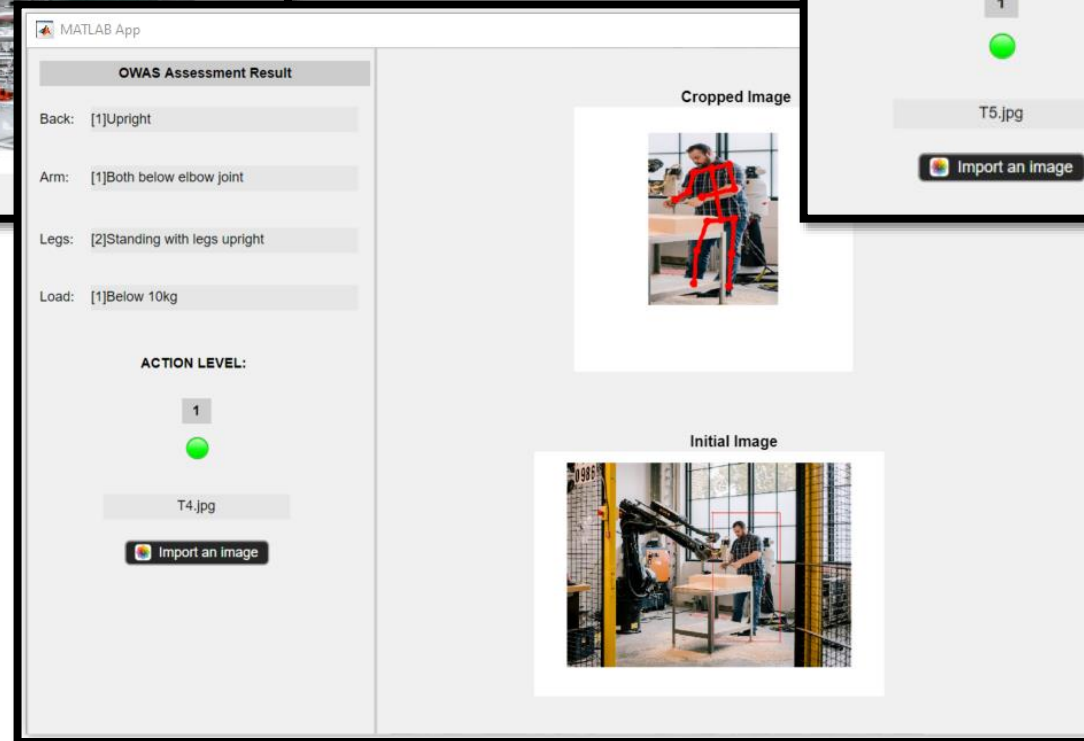
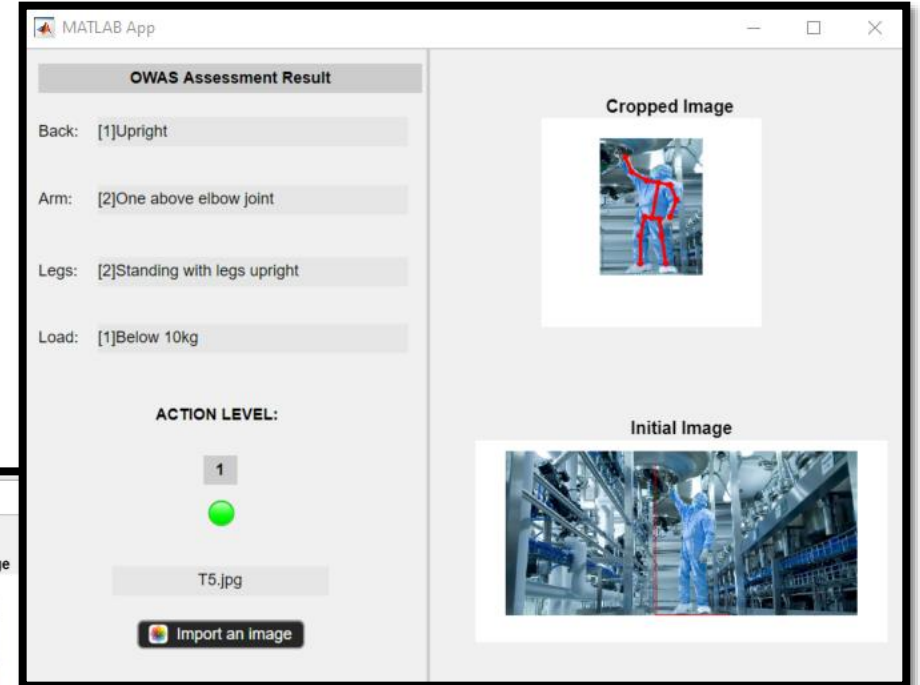
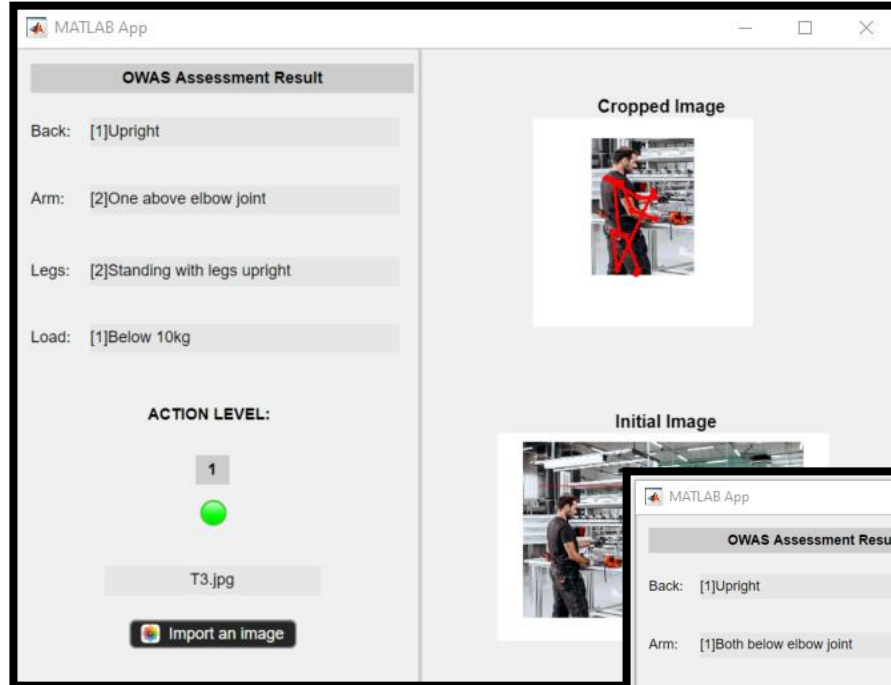
**Cropped Image**



**Initial Image**



### III. Result





### III. Result

**OWAS Assessment Result**

Back: [1]Upright

Arm: [3]Both above elbow joint

Legs: [2]Standing with legs upright

Load: [1]Below 10kg

**ACTION LEVEL:**

1

T6.jpg

**Cropped Image**

**Initial Image**

**OWAS Assessment Result**

Back: [2]Leaning forward

Arm: [1]Both below elbow joint

Legs: [7]Walking

Load: [2]10 - 20kg

**ACTION LEVEL:**

3

T6.jpg

**Cropped Image**

**Initial Image**

**OWAS Assessment Result**

Back: [2]Leaning forward

Arm: [1]Both below elbow joint

Legs: [7]Walking

Load: [3]Above 20kg

**ACTION LEVEL:**

3

T6.jpg

**Cropped Image**

**Initial Image**

Import an image

**OWAS Assessment Result**

Back: [4]Leaning forward & Flexous

Arm: [2]One above elbow joint

Legs: [2]Standing with legs upright

Load: [1]Below 10kg

**ACTION LEVEL:**

2

T6.jpg

Import an image

**Cropped Image**

**Initial Image**

**OWAS Assessment Result**

Back: [1]Upright

Arm: [1]Both below elbow joint

Legs: [7]Walking

Load: [3]Above 20kg

**ACTION LEVEL:**

1

T6.jpg

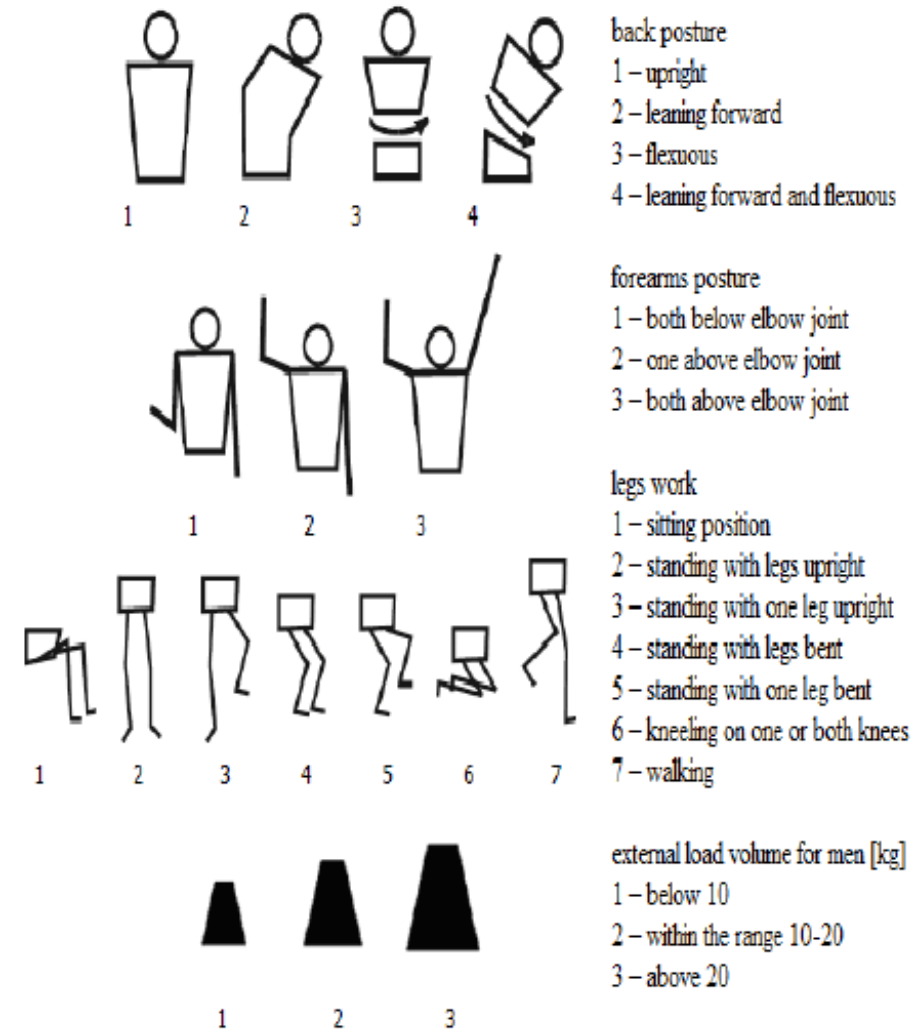
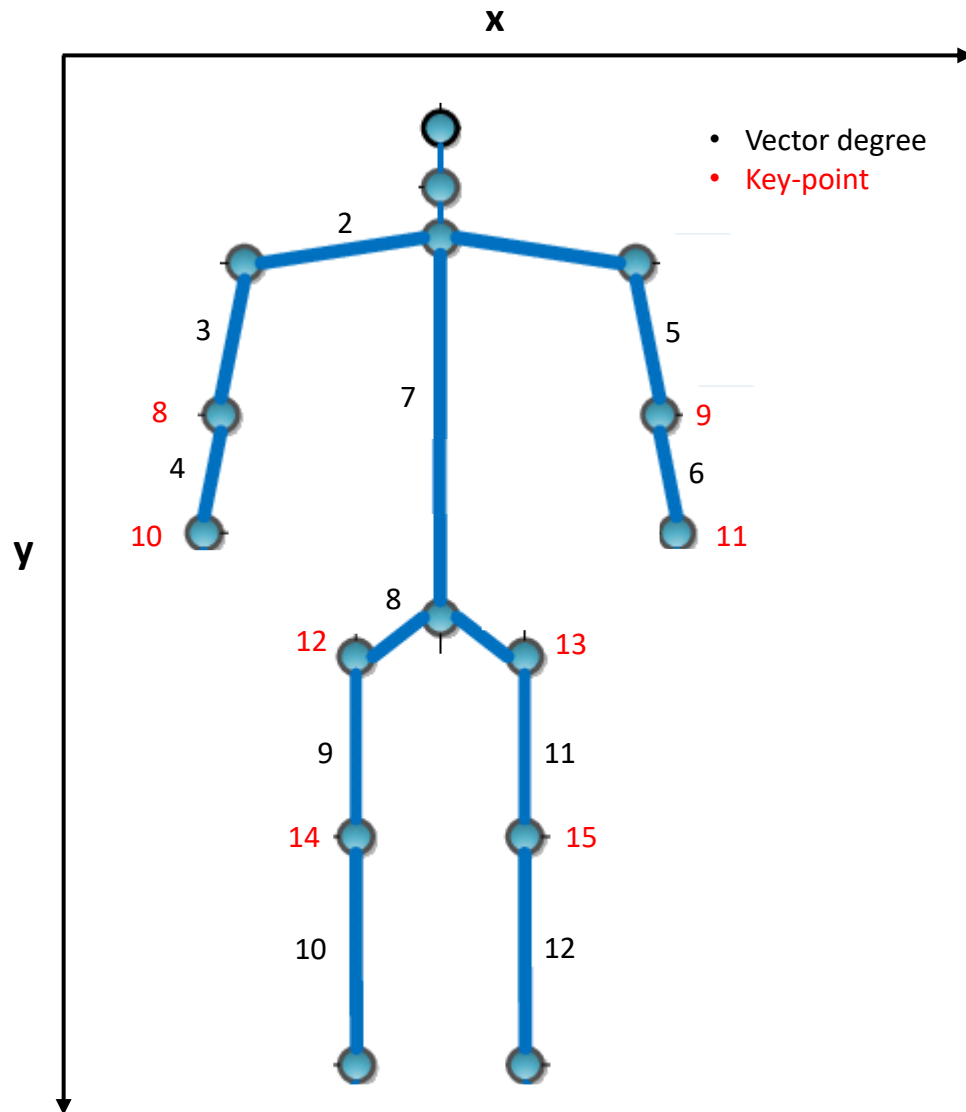
Import an image

**Cropped Image**

**Initial Image**



## IV. Back-end Flow



- ❑ High accuracy Key-point identifying (PostNet)
- ❑ Promising result on assessments
- ❑ Policies for the model
- ❑ Manual input information (product weight)
  - Image angle
  - Balance image rotation



Q & A