



# Working with Weka: Visualisation, Feature Selection and Classification

Timothy Patterson B.Sc. Ph.D.

[ulster.ac.uk](http://ulster.ac.uk)

# Software Tools

## Weka – Overview



**WEKA**  
The University  
of Waikato

### *Weka Download*

<http://www.cs.waikato.ac.nz/ml/weka/downloading.html>

### *Summer School Dropbox*

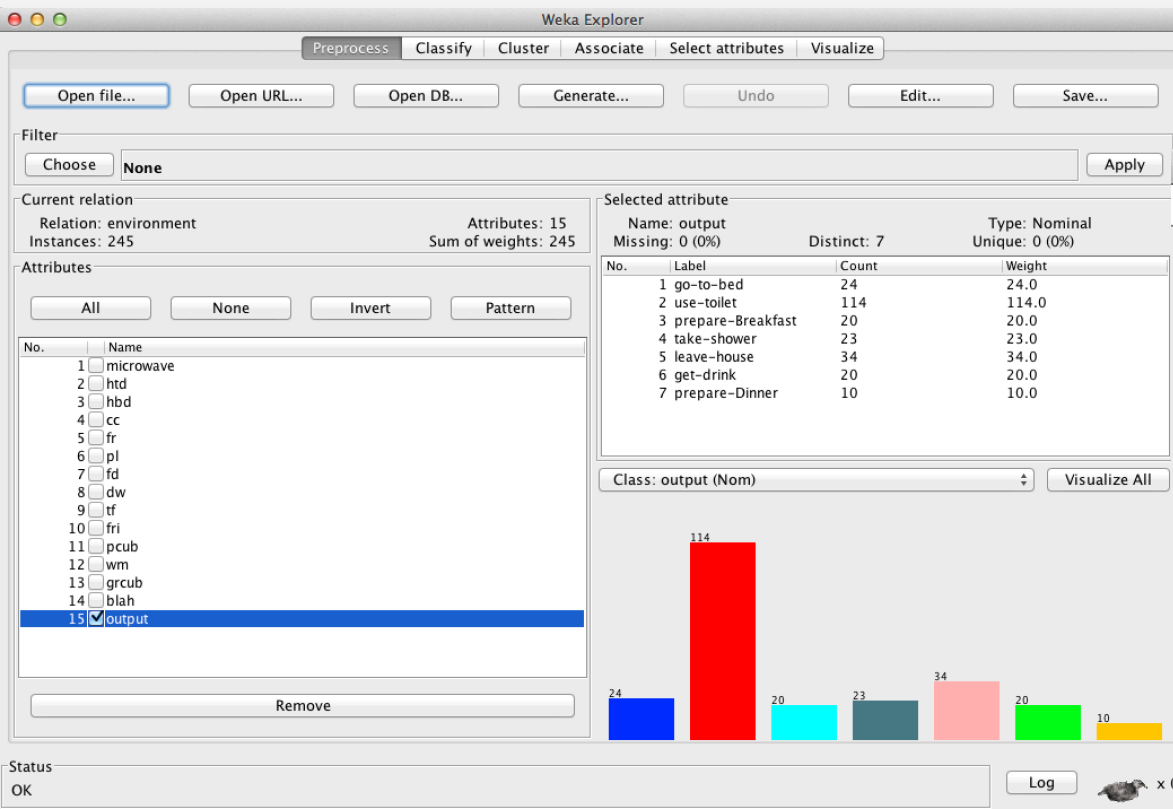
<http://bit.ly/290Byrw>

# Software Tools

## Weka – Overview



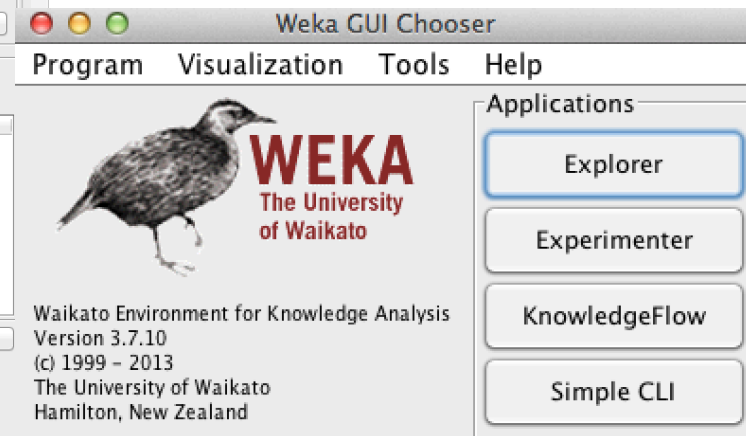
- Open source
- GUI / Java Library
- Strong visualization tools for data exploration



The screenshot shows the Weka Explorer application window. The title bar reads "Weka Explorer". The menu bar includes "Preprocess", "Classify", "Cluster", "Associate", "Select attributes", and "Visualize". Below the menu bar are buttons for "Open file...", "Open URL...", "Open DB...", "Generate...", "Undo", "Edit...", and "Save...". The "Filter" section has a "Choose" button and a dropdown menu set to "None", with an "Apply" button. The "Current relation" section shows "Relation: environment" and "Instances: 245". The "Attributes" section has buttons for "All", "None", "Invert", and "Pattern". A list of attributes is shown, with "output" selected. The "Selected attribute" section shows "Name: output", "Missing: 0 (0%)", "Distinct: 7", and "Type: Nominal". A table displays the distribution of the "output" attribute:

No.	Label	Count	Weight
1	go-to-bed	24	24.0
2	use-toilet	114	114.0
3	prepare-Breakfast	20	20.0
4	take-shower	23	23.0
5	leave-house	34	34.0
6	get-drink	20	20.0
7	prepare-Dinner	10	10.0

Below the table is a bar chart showing the counts for each label. The "Class: output (Nom)" dropdown and a "Visualize All" button are also visible. The status bar at the bottom shows "Status OK" and a "Log" button.



The screenshot shows the Weka GUI Chooser application window. The title bar reads "Weka GUI Chooser". The menu bar includes "Program", "Visualization", "Tools", and "Help". Below the menu bar is the WEKA logo and the text "The University of Waikato". The "Applications" section has buttons for "Explorer", "Experimenter", "KnowledgeFlow", and "Simple CLI". The footer text reads: "Waikato Environment for Knowledge Analysis", "Version 3.7.10", "(c) 1999 - 2013", "The University of Waikato", "Hamilton, New Zealand".

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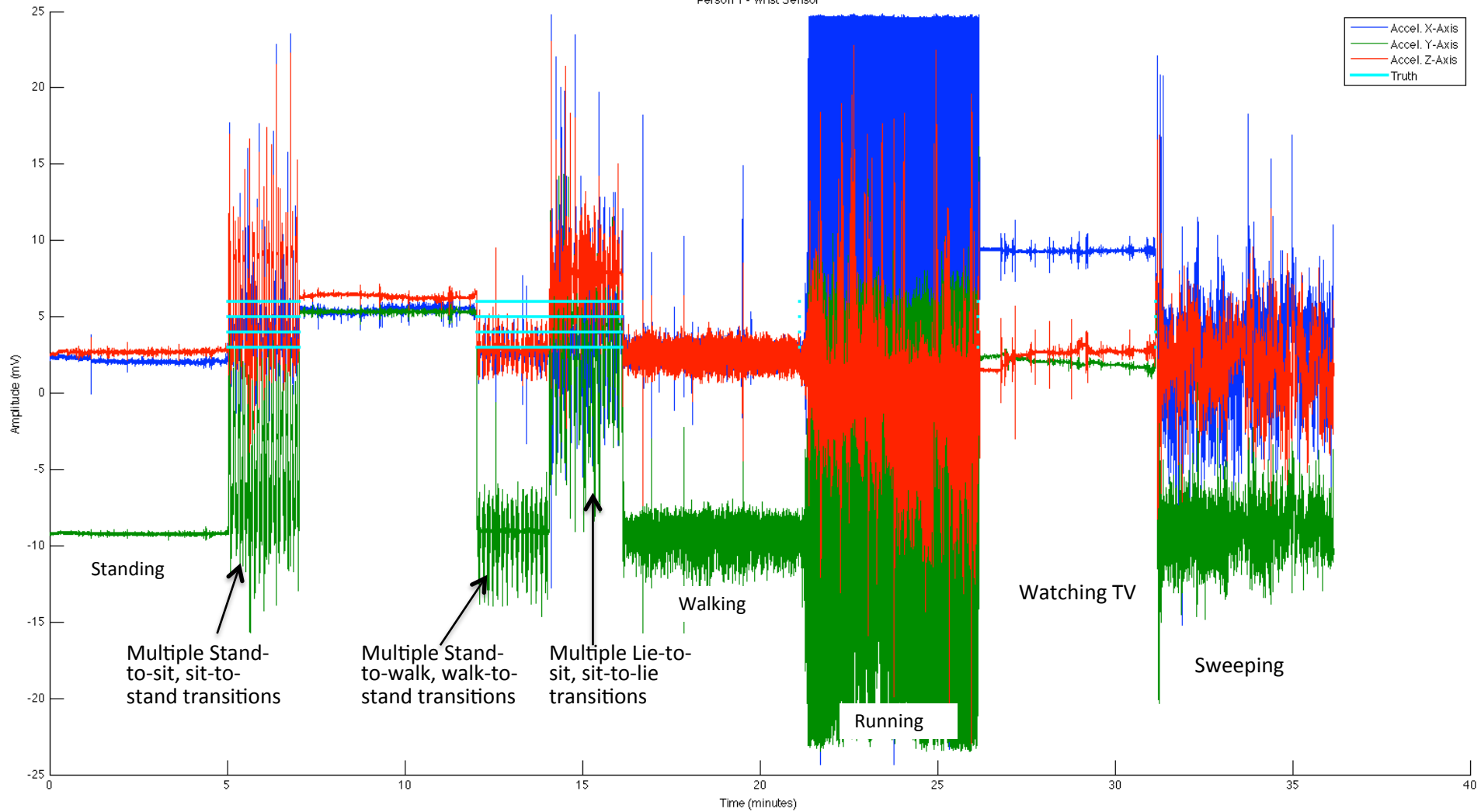
## Activity recognition dataset

- 10 participants
- 3 Shimmers (Wrist, Chest, Calf)
- 3 types of activities
  - Static (Standing, Watching TV, Sleeping)
  - Transitional (Stand to walk, Walk to stand, Stand to sit, Sit to stand, Sit to lie, Lie to sit)
  - Dynamic (Walking, Exercise, Sweeping)



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Person 1 - Wrist Sensor



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## Activity recognition dataset

@relation name

@attribute name real (or {nom1, nom2, nomN})

@data

```
for i in range (1,78):
```

```
    print ('@attribute var' + str(i) + ' real')
```



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