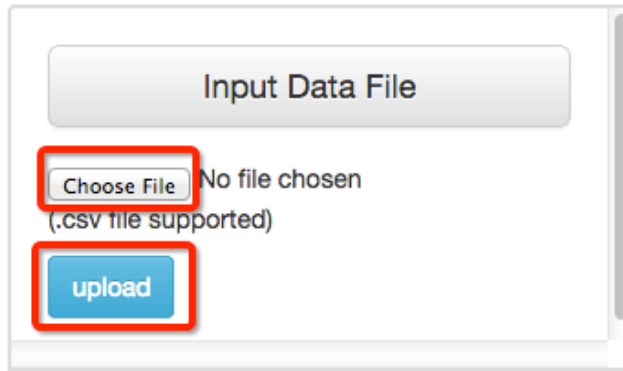# User Manual - Correlation Engine

Overview

"Correlation Engine" is an online statistical tool for mining the correlation between multiple items. Input the data file and options customized by yourself, you could get the visualized result.
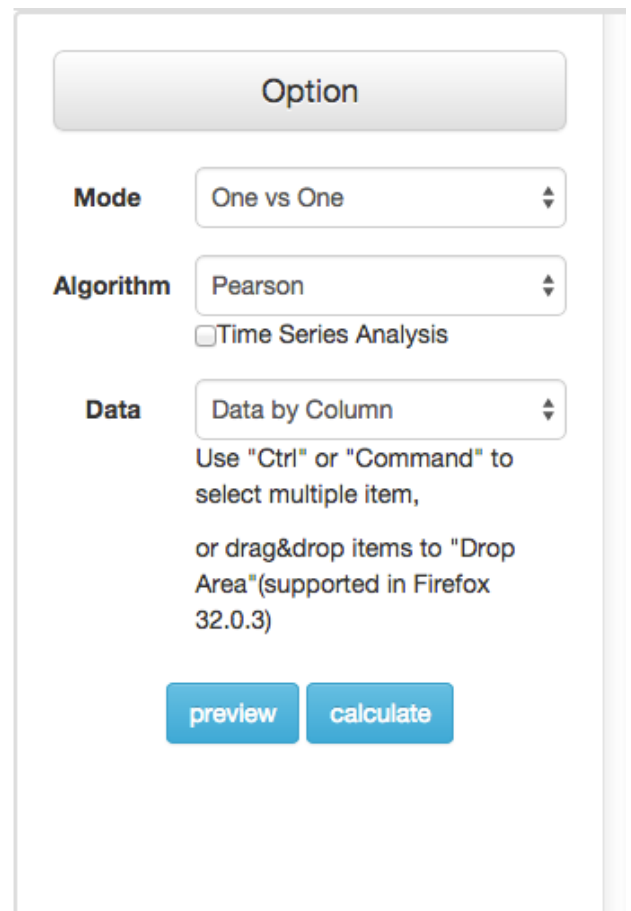
Procedures

1. **Input Data File**

   In the "Input Data File" area, click "Choose File" button, open the data file, and then click "Upload" button, wait until the alert message which indicate whether the uploading is succeed

   Input Data File

   Choose File No file chosen
   (.csv file supported)

   upload

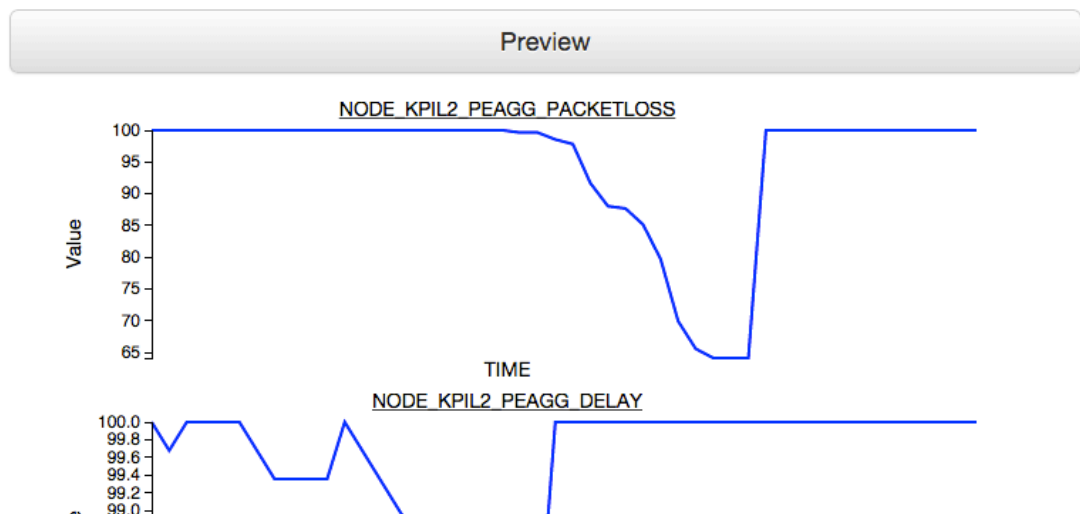2. **Customize Options**

   In the "Option" Area, customize options you like.

   - Mode:
     - ➢ "One vs One" – only compare two items
     - ➢ "One vs Many" – compare one item with another set of items
     - ➢ "Many vs Many" – compare each two items in a set of items
   - Algorithm:
     - ➢ "Pearson" – Pearson Correlation
     - ➢ "Time Series Analysis" – analyze the cross correlation, mining the lag relation between time series data, only supported in "One vs One" mode
   - Data:
     - ➢ "Data by Column" – compare data by Column, the first row would be header
     - ➢ "Data by Row" – compare data by Row, the first column would be header
     - ➢ Data area, choose data you like to analyze, you could either select them and click "preview" or "calculate", or easily Drag&Drop items to "Drop Area"

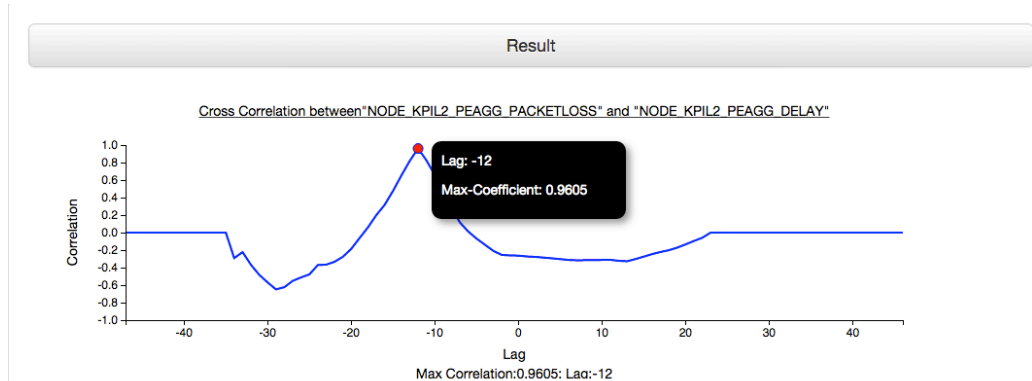   **Option**

   Mode   One vs One

   Algorithm   Pearson
                 ☐Time Series Analysis

   Data   Data by Column

   Use "Ctrl" or "Command" to select multiple item,

   or drag&drop items to "Drop Area"(supported in Firefox 32.0.3)

   preview   calculate

3. Preview

You could preview the data in Preview Area once you click "Preview" or Drap&Drop the items.
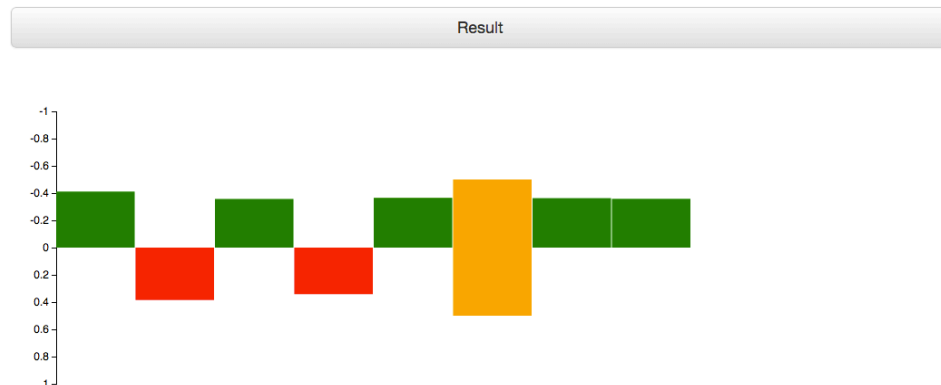

4. Get the result

For "One vs One" mode and "Time Series Analysis", you could get the cross correlation result, and the lag with the highest correlation coefficient.

For "One vs Many" mode, you could get a chart of the correlation result.

For "Manay vs Many" mode, you could get a correlation matrix, which is represented by a heat map.