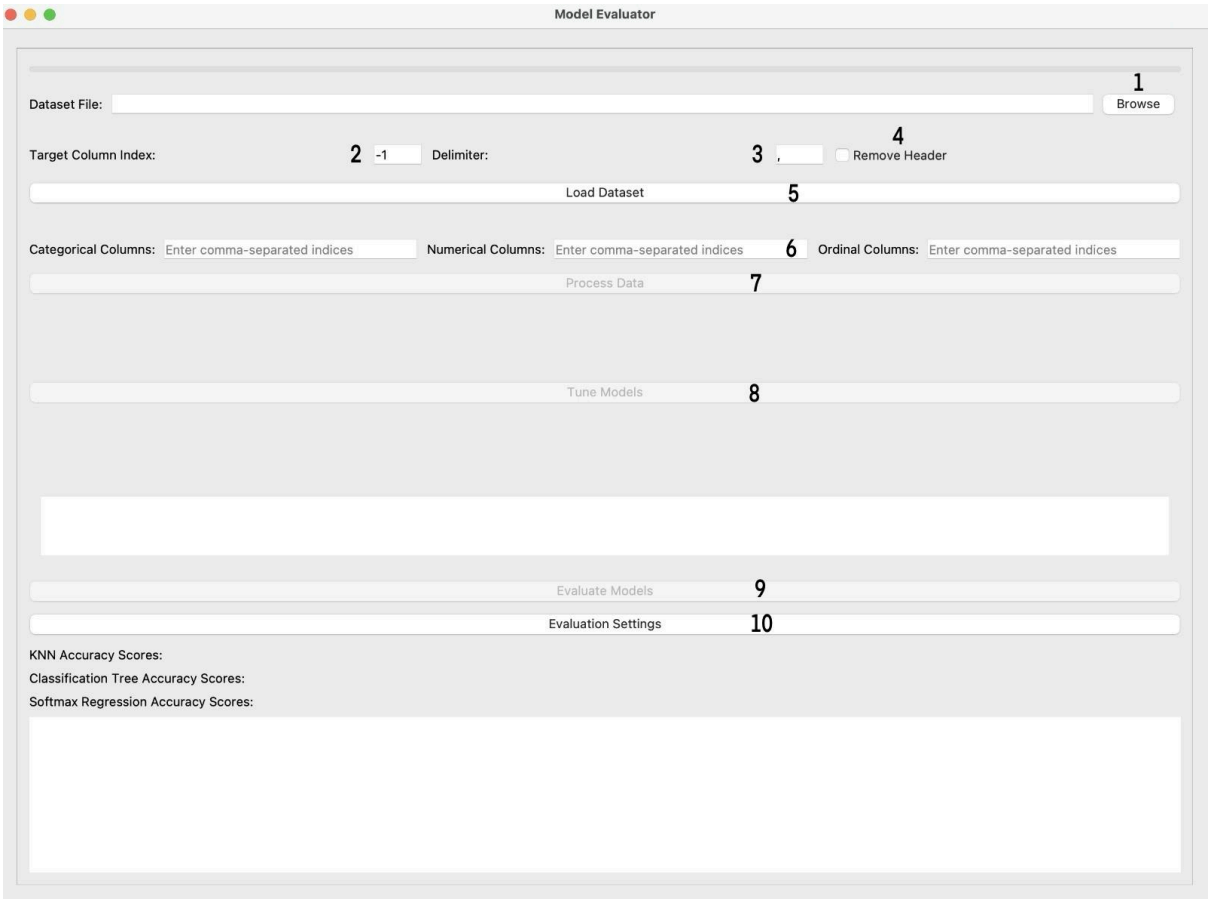
Machine Learning Model Evaluator

User Manual

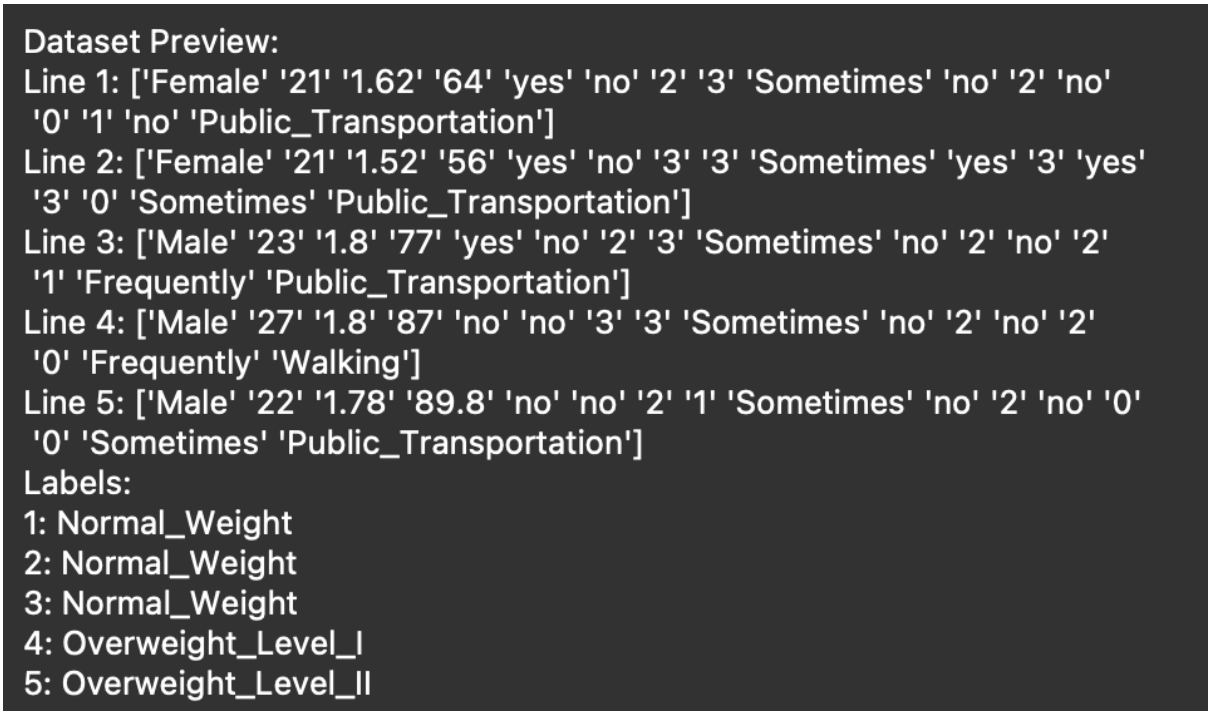
Interface

When the program is run, the interface will display as shown below.
Various components of the interface have been annotated numerically below.

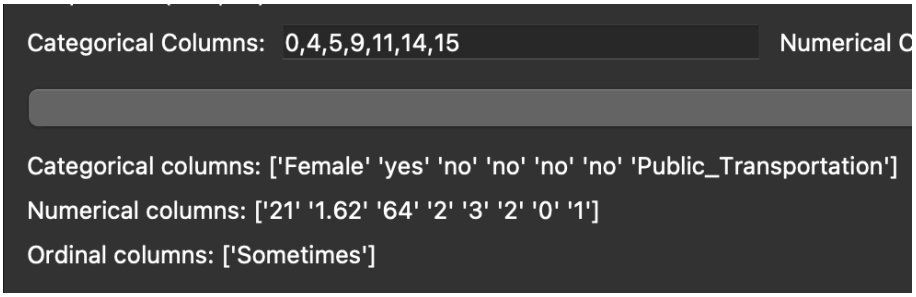


1) **Browse File Button** - This button allows a dataset to be loaded onto the application. The application accepts **.csv** and **.txt** files. It is a good idea to be familiar with your dataset file before uploading it. If there is much extra information in the file besides the dataset, it may be a good idea to remove this to prevent the application from displaying an error.
2) **Target Column Index** - In your columns of data within your dataset, one of the columns will represent your target column - the values that represent the labels for each data point in the dataset. This needs to be specified. Column values start from 0. The most far-right value in the dataset can also be represented with -1. The most common values for this box are 0 and -1, but it's advised to check your dataset.

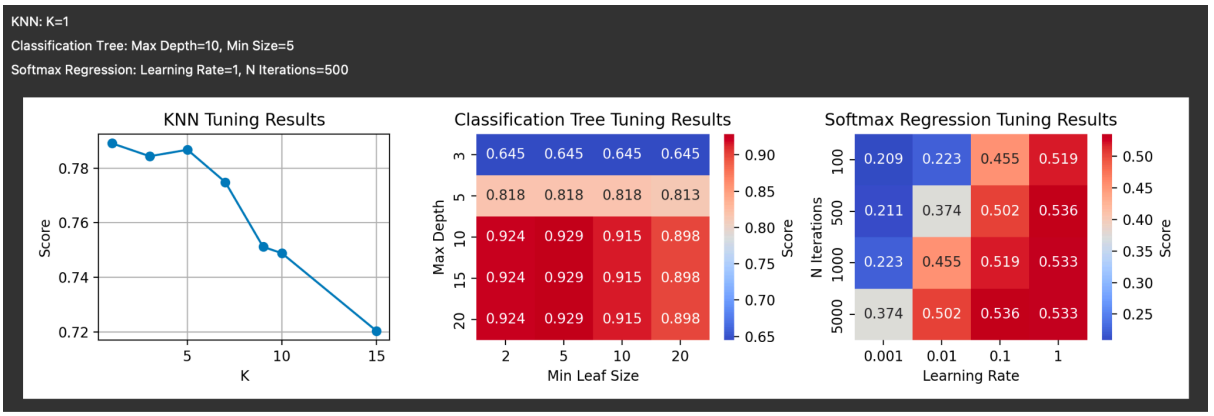
3) **Delimiter** - This is the symbol that your dataset is using to separate the columns of data. The most common are commas (‘,’), semi-colons (;), and tabs (a large space). If your dataset is separated by tabs, you should enter **\t** into the box. The application will then handle the dataset as a tab-delimited set.
4) **Remove Header** - It’s common for datasets that are loaded to include a row at the top of that describe each column in the dataset. Tick this box if your dataset includes one of these, and this will then be handled by the application.
5) **Load Dataset** - Once you’ve selected the appropriate options for **2, 3, and 4**, you may press this button to load the dataset onto the application. If you make a mistake, you can adjust the options and press this button again. If this has been done correctly in accordance with your dataset, a preview of the dataset should be visible as shown below.
   Check the **Labels** displayed to determine if these are the labels you’d expect to see. If not, consider altering **2.** If you see your entire dataset below the Labels text and none above it, you may have chosen the wrong delimiter, **3**, for your dataset.



6) **Data Types** - This application requires you to define which columns of your dataset are numerical, categorical or ordinal. Starting from 0 for the leftmost, list the columns with a comma in between each comma. If your entire dataset is the same type of data (e.g. it’s all numbers) then you may just type **all** in the corresponding box, and this will suffice. A preview will allow you
7) **Process Data Button** - Press this once you’ve allocated your columns to the input boxes. A preview should appear, showing how you’ve organised the data. If you’ve made a mistake, you can amend your mistake and press this again to correct.

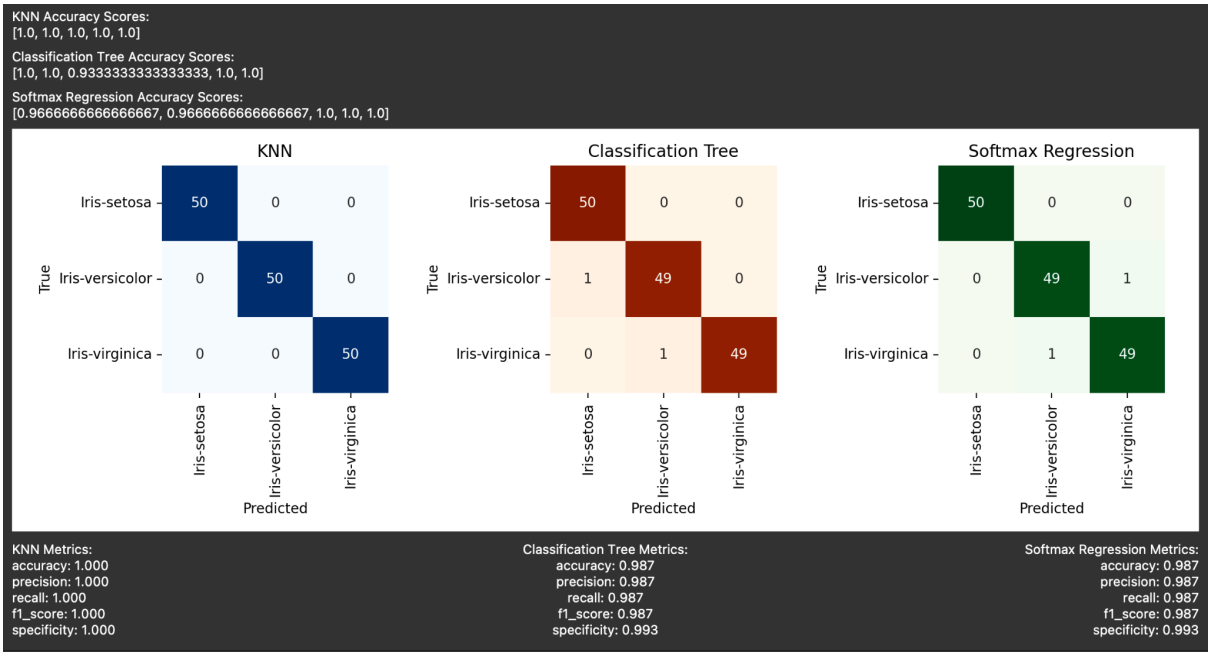


8) **Tune Models Button** - At this point, the data has been prepared and we can tune our models. There may be a short wait once this button has been pressed. If you want to cancel tuning, you can press the “Abort” button which will appear when the application is in the tuning process. A loading bar will display at the top of the screen to show the application’s progress. If you make a mistake in any of the previous steps, this button will usually throw an error. Once your models are tuned, a set of results from gridsearch will be displayed.



The chosen hyperparameters for the ideal model will also be displayed above.

9) **Evaluate Models** - Once your models are tuned, they can be evaluated. Like the previous process, you can follow progress on the progress bar and abort if needed. Once completed, three confusion matrices will be displayed, with accuracy scores from each of the folds displayed above and a set of metrics displayed below.



10) **Evaluation Settings** - If you wish to change some variables with how the cross-validation takes place on the dataset, you can click this button and alter the default values.