

To run this code, the users first have to install “Eigen” which is a C++ package. For Ubuntu users it can be easily done by running the following command:

```
sudo apt-get install libeigen3-dev
```

Add the include path of Eigen. You can do this by running the following command:

```
sudo ln -s /usr/include/eigen3/Eigen /usr/local/include/Eigen
```

or

```
sudo mv /usr/include/eigen3/Eigen /usr/local/include/Eigen
```

To speed up the code, we use “openmp” for parallel computing. You need to run the following command to generate the executable file.

```
g++ -fopenmp COX_L21_main_strong.cpp -o name_executable
```

Now you are ready to run the experiment, this algorithm has 13 arguments:

- file name of the training dataset in source domain.
- file name of the training dataset in target domain.
- file name of the testing dataset in target domain.
- number of instances of the training dataset in source domain.
- number of instances of the training dataset in target domain.
- number of instances of the testing dataset in target domain.
- number of features
- maximum iteration
- weight of target dataset
- multiplier of L2 norm
- number of λ you want to search
- m : the smallest searching λ 's multiplier ($\lambda_{min} = m \times \lambda_{max}$)

Note: The training and testing files are both in ".csv" format. Where each instance is represented as a row in file and the last two columns are survival times and censored indicators, respectively. Please refer to “Source_train.csv” to check the format.

You can run the command code as a toy example:

```
./name_executable Source_train.csv Target_train.csv Target_test.csv 76 76 39 552 100 2 0  
0.0001 100 0.05
```

And the prediction results are stored in “Source_train.csv_record_new.txt” is generated by running the above command code. In “Source_train.csv_record_new.txt”, each column corresponds to a λ , and each column has 56 elements:

| | |
|-------|--|
| Row.1 | lambda |
| Row.2 | The value of objective function |
| Row.3 | The value of the smooth part of the objective function |
| Row.4 | Number of features left after run the strong rule |
| Row.5 | C-index |

| | |
|----------|---------------------------------------|
| Row.6 | Number of non-zero coefficients |
| Row.7—56 | The index of top 50 selected features |