Project Report

Artificial Intelligence

CS 480

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**Project Report**

**Description of the Choose\_The\_Best\_Classifier Method**

We have to select the classifier which gives maximum wealth for each dataset. But the accuracy did not provide any consistent behavior, so I select the logistic regression one which at least maximize the overall wealth.

**SIMULATION RESULTS**

C:\WinPython-64bit-2.7.10.1\python-2.7.10.amd64\python.exe "D:/MsCS/Artificial Intelligence CS480/phase3-code-and-data/simulate\_agents\_phase3.py"

C:\WinPython-64bit-2.7.10.1\python-2.7.10.amd64\python.exe "D:/MsCS/Artificial Intelligence CS480/phase3-code-and-data/simulate\_agents\_phase3.py"

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Accuracy for LogisticRegression

0.986

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Accuracy for BernoulliNB

0.984

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Accuracy for SVC

0.794

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SIMULATION RESULTS ON dataset1

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Wealth (the larger the better)

Agent\_bnb: $1,775,950.00

Agent\_lr: $1,638,100.00

Agent\_svc: $1,597,800.00

Agent\_sghauri: $1,638,100.00

Log-loss (the smaller the better)

Agent\_bnb: 332.25

Agent\_lr: 373.89

Agent\_svc: 408.29

Agent\_sghauri: 373.89

0/1 Loss (the smaller the better)

Agent\_bnb: 88

Agent\_lr: 115

Agent\_svc: 149

Agent\_sghauri: 115

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Accuracy for LogisticRegression

0.968

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Accuracy for BernoulliNB

0.96

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Accuracy for SVC

0.772

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SIMULATION RESULTS ON dataset2

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Wealth (the larger the better)

Agent\_bnb: $1,507,950.00

Agent\_lr: $1,717,100.00

Agent\_svc: $1,537,800.00

Agent\_sghauri: $1,717,100.00

Log-loss (the smaller the better)

Agent\_bnb: 553.13

Agent\_lr: 487.71

Agent\_svc: 564.90

Agent\_sghauri: 487.71

0/1 Loss (the smaller the better)

Agent\_bnb: 250

Agent\_lr: 223

Agent\_svc: 295

Agent\_sghauri: 223

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Accuracy for LogisticRegression

0.898

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Accuracy for BernoulliNB

0.92

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Accuracy for SVC

0.864

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SIMULATION RESULTS ON dataset3

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Wealth (the larger the better)

Agent\_bnb: $795,950.00

Agent\_lr: $810,100.00

Agent\_svc: $1,107,800.00

Agent\_sghauri: $810,100.00

Log-loss (the smaller the better)

Agent\_bnb: 571.94

Agent\_lr: 566.91

Agent\_svc: 411.49

Agent\_sghauri: 566.91

0/1 Loss (the smaller the better)

Agent\_bnb: 250

Agent\_lr: 255

Agent\_svc: 161

Agent\_sghauri: 255

Process finished with exit code 0