Feature Descriptor: LBP

1. Feature Selection: CFS

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

1. Feature Selection: Chi-Square

K=10

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=20

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=30

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=40

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=50

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=60

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

1. Feature Selection: Gain Ratio

K=10

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=20

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=30

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=40

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=50

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=60

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

1. Feature Selection: Information Gain

K=10

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=20

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=30

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=40

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=50

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=60

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

1. Feature Selection: Relief

K=10

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=20

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=30

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=40

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=50

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |

K=60

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Algorithm | AUC | AC | SN | SP | PR | FM | TIME |
| J48 |  |  |  |  |  |  |  |
| J48 binary tree |  |  |  |  |  |  |  |
| AODE |  |  |  |  |  |  |  |
| Bayes network |  |  |  |  |  |  |  |
| Naïve bay |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |
| Logistic |  |  |  |  |  |  |  |
| SMO |  |  |  |  |  |  |  |
| Muti layer |  |  |  |  |  |  |  |