**Analysis with new data for PETSc on Aciss**

Location: Sandbox/ml/

File name: petsc\_anamod\_aciss\_1.arff

Data points: 1983

Features: 54 (after using RemoveUselessFilter)

B = 1

10- fold Cross validation

Good class instances: 821

Bad class instances: 1162

10- fold Cross validation

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 1.18 | 6.9 | 71.5 |
| RF(100) | 2.38 | 73.9 | 87.3 |
| BayesNet | 0.06 | 67 | 78.7 |
| Knn(k=10) | 0.001 | **83.2** | 69.5 |
| Knn(k= 5) | 0.001 | 77.1 | 70.3 |
| ADTree | 0.35 | 75.8 | 85.6 |
| J48 | 0.22 | 79.5 | 87.1 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

57 764 | a = good

331 831 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

607 214 | a = good

148 1014 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

550 271 | a = good

247 915 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

683 138 | a = good

354 808 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

633 188 | a = good

345 817 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

622 199 | a = good

167 995 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

653 168 | a = good

150 1012 | b = bad

66-34% split

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 1.86 | 8.9 | 57.1 |
| RF(100) | 2.31 | 71 | 86.7 |
| BayesNet | 0.03 | 66.4 | 78.3 |
| Knn(k=10) | 0.001 | **88** | 65.8 |
| Knn(k= 5) | 0.001 | 78.8 | 67.7 |
| ADTree | 0.35 | 83.4 | 74.2 |
| J48 | 0.2 | 74.9 | 85.8 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

23 236 | a = good

178 237 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

184 75 | a = good

55 360 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

172 87 | a = good

90 325 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

228 31 | a = good

142 273 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

204 55 | a = good

134 281 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

216 43 | a = good

107 308 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

194 65 | a = good

59 356 | b = bad

File name: petsc\_anamod\_aciss\_5.arff

Data points: 1983

Features: 54 (after using RemoveUselessFilter)

B = 5

10- fold Cross validation

Good class instances: 848

Bad class instances: 1135

10- fold Cross validation

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 2.23 | 22.9 | 56.8 |
| RF(100) | 2.36 | 76.9 | 86.8 |
| BayesNet | 0.03 | 67.7 | 79 |
| Knn(k=10) | 0.001 | **85.4** | 67 |
| Knn(k= 5) | 0.001 | 78.5 | 63.6 |
| ADTree | 0.38 | 80.7 | 84 |
| J48 | 0.22 | 78.1 | 88.6 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

194 654 | a = good

490 645 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

652 196 | a = good

150 985 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

574 274 | a = good

238 897 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

724 124 | a = good

374 761 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

666 182 | a = good

413 722 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

684 164 | a = good

182 953 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

662 186 | a = good

129 1006 | b = bad

66-34% split

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 1.28 | 13.3 | 55.2 |
| RF(100) | 2.31 | 74.8 | 82.9 |
| BayesNet | 0.04 | 65.6 | 78.2 |
| Knn(k=10) | 0.001 | **88.9** | 64.1 |
| Knn(k= 5) | 0.001 | 79.6 | 66.8 |
| ADTree | 0.33 | 84.1 | 74.5 |
| J48 | 0.23 | 74.8 | 84.2 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

36 234 | a = good

181 223 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

202 68 | a = good

69 335 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

177 93 | a = good

88 316 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

240 30 | a = good

145 259 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

215 55 | a = good

134 270 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

227 43 | a = good

103 301 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

202 68 | a = good

64 340 | b = bad

File name: petsc\_anamod\_aciss\_10.arff

Data points: 1983

Features: 54 (after using RemoveUselessFilter)

B = 10

10- fold Cross validation

Good class instances: 867

Bad class instances: 1116

10- fold Cross validation

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 1.71 | 29.3 | 54.6 |
| RF(100) | 2.38 | 77.2 | 86.5 |
| BayesNet | 0.04 | 66.7 | 77.9 |
| Knn(k=10) | 0.001 | **85.8** | 66.9 |
| Knn(k= 5) | 0.001 | 78.2 | 63.2 |
| ADTree | 0.37 | 79.2 | 84.9 |
| J48 | 0.22 | 77.2 | 87.1 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

254 613 | a = good

507 609 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

669 198 | a = good

151 965 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

578 289 | a = good

247 869 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

744 123 | a = good

369 747 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

678 189 | a = good

411 705 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

687 180 | a = good

169 947 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

669 198 | a = good

144 972 | b = bad

66-34% split

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 2.01 | 15 | 54.3 |
| RF(100) | 2.5 | 75.5 | 84 |
| BayesNet | 0.03 | 65.7 | 78.8 |
| Knn(k=10) | 0.001 | **89.4** | 63.5 |
| Knn(k= 5) | 0.001 | 79.9 | 67 |
| ADTree | 0.34 | 83.9 | 73.8 |
| J48 | 0.28 | 76.3 | 86 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

41 233 | a = good

183 217 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

207 67 | a = good

64 336 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

180 94 | a = good

85 315 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

245 29 | a = good

146 254 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

219 55 | a = good

132 268 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

230 44 | a = good

105 295 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

209 65 | a = good

56 344 | b = bad

File name: petsc\_anamod\_aciss\_15.arff

Data points: 1983

Features: 54 (after using RemoveUselessFilter)

B = 15

10- fold Cross validation

Good class instances: 892

Bad class instances: 1091

10- fold Cross validation

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 2.39 | 47.3 | 41.9 |
| RF(100) | 2.49 | 79.5 | 86.3 |
| BayesNet | 0.03 | 65.5 | 79.7 |
| Knn(k=10) | 0.001 | **85.4** | 67.6 |
| Knn(k= 5) | 0.001 | 77.5 | 65 |
| ADTree | 0.34 | 80.8 | 84.9 |
| J48 | 0.19 | 78.9 | 87.8 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

422 470 | a = good

634 457 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

709 183 | a = good

149 942 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

584 308 | a = good

221 870 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

762 130 | a = good

354 737 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

691 201 | a = good

382 709 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

721 171 | a = good

165 926 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

704 188 | a = good

133 958 | b = bad

66-34% split

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 2.51 | 50.9 | 16 |
| RF(100) | 2.47 | 80.4 | 84.5 |
| BayesNet | 0.03 | 64.8 | 78.9 |
| Knn(k=10) | 0.001 | 89.7 | 64.1 |
| Knn(k= 5) | 0.001 | 80.8 | 67.4 |
| ADTree | 0.35 | **90.0** | 69.0 |
| J48 | 0.19 | 79.7 | 88.5 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

143 138 | a = good

330 63 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

226 55 | a = good

61 332 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

182 99 | a = good

83 310 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

252 29 | a = good

141 252 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

227 54 | a = good

128 265 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

253 28 | a = good

122 271 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

224 57 | a = good

45 348 | b = bad

File name: petsc\_anamod\_aciss\_20.arff

Data points: 1983

Features: 54 (after using RemoveUselessFilter)

B = 20

10- fold Cross validation

Good class instances: 911

Bad class instances: 1072

10- fold Cross validation

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 2.5 | 42.3 | 43.3 |
| RF(100) | 2.28 | 82.9 | 86.4 |
| BayesNet | 0.03 | 64.5 | 80.9 |
| Knn(k=10) | 0.001 | **85.5** | 68.8 |
| Knn(k= 5) | 0.001 | 79.5 | 65.2 |
| ADTree | 0.33 | 83.8 | 83.1 |
| J48 | 0.18 | 78.4 | 89.1 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

385 526 | a = good

608 464 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

755 156 | a = good

146 926 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

588 323 | a = good

205 867 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

779 132 | a = good

335 737 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

724 187 | a = good

373 699 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

763 148 | a = good

181 891 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

714 197 | a = good

117 955 | b = bad

66-34% split

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 2.45 | 52.8 | 15 |
| RF(100) | 2.38 | 81.9 | 83.7 |
| BayesNet | 0.02 | 64.6 | 79.5 |
| Knn(k=10) | 0.001 | 89.9 | 64.2 |
| Knn(k= 5) | 0.001 | 82.3 | 67.6 |
| ADTree | 0.36 | 85.8 | 77.5 |
| J48 | 0.19 | 81.9 | 89.6 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

152 136 | a = good

328 58 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

236 52 | a = good

63 323 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

186 102 | a = good

79 307 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

259 29 | a = good

138 248 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

237 51 | a = good

125 261 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

247 41 | a = good

87 299 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

236 52 | a = good

40 346 | b = bad

File name: petsc\_anamod\_aciss\_25.arff

Data points: 1983

Features: 54 (after using RemoveUselessFilter)

B = 25

10- fold Cross validation

Good class instances: 918

Bad class instances: 1065

10- fold Cross validation

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 2.53 | 37.1 | 42.3 |
| RF(100) | 2.38 | 81.8 | 86.3 |
| BayesNet | 0.03 | 64.5 | 81 |
| Knn(k=10) | 0.001 | **85.7** | 68.5 |
| Knn(k= 5) | 0.001 | 79.4 | 65.9 |
| ADTree | 0.34 | 83.7 | 82.6 |
| J48 | 0.18 | 81.3 | 88 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

341 577 | a = good

615 450 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

751 167 | a = good

146 919 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

592 326 | a = good

202 863 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

787 131 | a = good

336 729 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

729 189 | a = good

363 702 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

768 150 | a = good

185 880 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

746 172 | a = good

128 937 | b = bad

66-34% split

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 1.42 | 52.8 | 15.1 |
| RF(100) | 2.99 | 80.0 | 85.9 |
| BayesNet | 0.03 | 64.1 | 79.4 |
| Knn(k=10) | 0.001 | **90.0** | 64.3 |
| Knn(k= 5) | 0.001 | 84.8 | 67.7 |
| ADTree | 0.35 | 81.0 | 83.9 |
| J48 | 0.18 | 82.1 | 87.8 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

153 137 | a = good

326 58 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

232 58 | a = good

54 330 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

186 104 | a = good

79 305 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

261 29 | a = good

137 247 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

246 44 | a = good

124 260 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

235 55 | a = good

62 322 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

238 52 | a = good

47 337 | b = bad

File name: petsc\_anamod\_aciss\_30.arff

Data points: 1983

Features: 54 (after using RemoveUselessFilter)

B = 30

10- fold Cross validation

Good class instances: 931

Bad class instances: 1052

10- fold Cross validation

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 2.52 | 38.2 | 33.6 |
| RF(100) | 2.4 | **82.5** | 86.4 |
| BayesNet | 0.03 | 75.0 | 71.8 |
| Knn(k=10) | 0.001 | 85.8 | 67.8 |
| Knn(k= 5) | 0.001 | 80.0 | 65.1 |
| ADTree | 0.35 | 80.5 | 85.6 |
| J48 | 0.19 | 82.1 | 87.8 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

524 407 | a = good

846 206 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

768 163 | a = good

143 909 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

595 336 | a = good

198 854 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

799 132 | a = good

339 713 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

745 186 | a = good

367 685 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

749 182 | a = good

152 900 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

764 167 | a = good

128 924 | b = bad

66-34% split

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 3.29 | 53.9 | 15 |
| RF(100) | 2.39 | 79.7 | 82.6 |
| BayesNet | 0.03 | 63.7 | 79.7 |
| Knn(k=10) | 0.001 | **90.2** | 64.1 |
| Knn(k= 5) | 0.001 | 84.4 | 67.5 |
| ADTree | 0.36 | 84.1 | 83.6 |
| J48 | 0.21 | 84.4 | 85.5 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

159 136 | a = good

322 57 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

235 60 | a = good

66 313 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

188 107 | a = good

77 302 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

266 29 | a = good

136 243 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

266 29 | a = good

136 243 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

248 47 | a = good

62 317 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

249 46 | a = good

55 324 | b = bad

File name: petsc\_anamod\_aciss\_35.arff

Data points: 3049

Features: 54 (after using RemoveUselessFilter)

B = 35

10- fold Cross validation

Good class instances: 1045

Bad class instances: 2004

10- fold Cross validation

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 4.5 | 36.6 | 54.5 |
| RF(100) | 3.47 | 80.1 | 93.7 |
| BayesNet | 0.04 | 43.7 | 80.5 |
| Knn(k=10) | 0.001 | 74.6 | 86.4 |
| Knn(k= 5) | 0.001 | 69.5 | 84.1 |
| ADTree | 0.67 | 75.1 | 90.7 |
| J48 | 0.35 | **86.4** | 91.2 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

382 663 | a = good

911 1093 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

837 208 | a = good

126 1878 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

457 588 | a = good

390 1614 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

780 265 | a = good

325 1679 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

726 319 | a = good

319 1685 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

785 260 | a = good

187 1817 | b = bad

J48

=== Confusion Matrix ===

66-34% split

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 2.64 | 13.8 | 69.3 |
| RF(100) | 3.23 | 79.4 | 94.7 |
| BayesNet | 0.04 | 43.5 | 85.4 |
| Knn(k=10) | 0.001 | 65.0 | 85.7 |
| Knn(k= 5) | 0.001 | 63.3 | 88.1 |
| ADTree | 0.62 | 68.4 | 94.7 |
| J48 | 0.2 | **81.1** | 92.7 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

49 305 | a = good

210 473 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

281 73 | a = good

36 647 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

154 200 | a = good

100 583 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

230 124 | a = good

98 585 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

224 130 | a = good

81 602 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

242 112 | a = good

36 647 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

287 67 | a = good

50 633 | b = bad

File name: petsc\_anamod\_aciss\_40.arff

Data points: 3049

Features: 54 (after using RemoveUselessFilter)

B = 40

10- fold Cross validation

Good class instances: 1070

Bad class instances: 1979

10- fold Cross validation

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 3.49 | 27.9 | 61.3 |
| RF(100) | 3.05 | 81.2 | 94.3 |
| BayesNet | 0.04 | 52.6 | 80.7 |
| Knn(k=10) | 0.001 | 73.3 | 84.4 |
| Knn(k= 5) | 0.001 | 69.8 | 84.6 |
| ADTree | 0.64 | 75.3 | 91.6 |
| J48 | 0.2 | **87.1** | 91.1 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

298 772 | a = good

765 1214 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

869 201 | a = good

113 1866 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

563 507 | a = good

381 1598 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

784 286 | a = good

309 1670 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

747 323 | a = good

305 1674 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

806 264 | a = good

167 1812 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

932 138 | a = good

176 1803 | b = bad

66-34% split

|  |  |  |  |
| --- | --- | --- | --- |
| **ML model** | **Build Time** | **Good accuracy %** | **Bad accuracy %** |
| LibSVM | 4.65 | 14.4 | 69.1 |
| RF(100) | 3.13 | 81.7 | 94.8 |
| BayesNet | 0.04 | 59 | 81.1 |
| Knn(k=10) | 0.001 | 65.1 | 85.8 |
| Knn(k= 5) | 0.001 | 63.2 | 88.2 |
| ADTree | 0.6 | 74.5 | 92.6 |
| J48 | 0.22 | 87.3 | 90.2 |

LibSVM

=== Confusion Matrix ===

a b <-- classified as

52 309 | a = good

209 467 | b = bad

RF

=== Confusion Matrix ===

a b <-- classified as

295 66 | a = good

35 641 | b = bad

BayesNet

=== Confusion Matrix ===

a b <-- classified as

213 148 | a = good

128 548 | b = bad

Knn 10

=== Confusion Matrix ===

a b <-- classified as

235 126 | a = good

96 580 | b = bad

Knn 5

=== Confusion Matrix ===

a b <-- classified as

228 133 | a = good

80 596 | b = bad

ADT

=== Confusion Matrix ===

a b <-- classified as

269 92 | a = good

50 626 | b = bad

J48

=== Confusion Matrix ===

a b <-- classified as

315 46 | a = good

66 610 | b = bad