A. Final SRI-based one class classifier to detect anomalies in CarChallenge2020 data

Classifier One_class_SRI_Classifier to distinguish normal and attack in CarChallenge2020 dataset

```
1: if row['Arbitration ID'] == '043' then:
       if row['TimePeriod'] >= 0.9982744455337524 and row['D4'] >= 31.5 then:
3.
          return 'normal'
4.
       else if row['TimePeriod'] >= 0.2925919294357299 and row['D2'] >= 63.5 then:
5.
          return 'normal'
       else if row['D4'] >= 31.5 and row['D3'] < 4.5 and row['D4'] < 32.5 then:
6:
7.
          return 'normal'
8.
       else if row['P\_CAN\_ID\_000'] >= 0.5 then:
9.
          return 'normal'
10:
       else if row['TimePeriod'] >= 0.24168157577514643 and row['D2'] >= 63.5 then:
           return 'normal'
11:
12.
       else if row['D3'] < 2.5 and row['D6'] < 0.5 and row['D3'] >= 1.5 then:
13:
           return 'normal'
14:
       else
15:
           return 'attack'
16: else if row['Arbitration\_ID'] == '07F' then:
17:
       if row['TimePeriod'] >= 0.2152044773101806 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
18:
19:
        else if row['TimePeriod'] >= 0.2152044773101806 and row['TimeInterval'] >= 0.00025236606597895 then:
20:
           return 'normal'
21:
        else if row['P\_CAN\_ID\_000'] >= 0.5 then:
22:
23:
           return 'normal'
        else if row['TimePeriod'] >= 0.2130279541015625 and row['D0'] < 0.5 then:
24:
25:
        else if row['PP\_CAN\_ID\_368'] >= 0.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
26:
27:
        else if row['TimeInterval'] >= 0.00025236606597895 and row['D7'] < 0.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
28:
           return 'normal'
29:
30:
           return 'attack'
31: else if row['Arbitration\_ID'] == '130' then:
       if row['D5'] < 0.5 and row['D0'] >= 215.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
33:
           return 'normal'
34:
        else if row['D5'] < 0.5 and row['D0'] >= 215.5 and row['P\_CAN\_ID\_153'] >= 0.5 then:
35:
           return 'normal'
36:
       else if row['D2'] >= 35.5 and row['D3'] >= 127.5 and row['D3'] < 128.5 then:
           return 'normal'
38:
        else if row['P\_CAN\_ID\_000'] >= 0.5 then:
           return 'normal'
40:
       else if row['D1'] >= 126.5 and row['P CAN ID 386'] >= 0.5 then:
41:
           return 'normal'
42:
        else if row['D0'] >= 215.0 and row['P\_CAN\_ID\_153'] >= 0.5 then:
43:
           return 'normal'
44:
       else if row['D0'] >= 215.0 and row['P\_CAN\_ID\_366'] >= 0.5 then:
45:
           return 'normal'
46:
        else if row['D1'] >= 126.5 and row['D2'] >= 75.5 and row['D0'] >= 215.0 then:
47:
           return 'normal'
48:
        else if row['D1'] >= 126.5 and row['D2'] >= 75.5 and row['P CAN ID 329'] >= 0.5 then:
49:
           return 'normal'
50:
        else if row['D1'] >= 126.5 and row['D2'] >= 75.5 and row['PP\ CAN\ ID\ 251'] >= 0.5 then:
51:
           return 'normal'
52:
        else if row['D1'] >= 126.5 and row['D2'] >= 75.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
53:
           return 'normal'
54:
        else if row['D1'] >= 126.5 and row['D2'] >= 75.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
55:
           return 'normal'
56:
        else if row['D1'] >= 126.5 and row['D2'] >= 67.5 and row['D1'] < 127.5 then:
57:
           return 'normal'
58:
        else if row['D1'] >= 126.5 and row['D3'] >= 127.5 and row['D5'] < 0.5 then:
59:
           return 'normal'
60:
        else if row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
61:
           return 'normal'
62:
        else if row['D3'] >= 122.5 and row['D1'] >= 107.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
63:
           return 'normal'
        else if row['D3'] >= 122.5 and row['D5'] < 0.5 and row['P\_CAN\_ID\_220'] >= 0.5 then:
64:
65:
           return 'normal'
66:
        else if row['D3'] >= 122.5 and row['D2'] >= 39.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
67:
           return 'normal'
68:
        else if row['D1'] >= 107.5 and row['D5'] < 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
69:
           return 'normal'
70:
        else if row['D5'] < 0.5 and row['D2'] >= 31.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
71:
           return 'normal'
72:
73:
        else if row['D5'] < 0.5 and row['D2'] >= 31.5 and row['P\_CAN\_ID\_153'] >= 0.5 then:
           return 'normal'
74:
75:
        else if row['D2'] >= 31.5 and row['P\_CAN\_ID\_329'] >= 0.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
           return 'normal'
76:
77:
        else if row['D4'] < 0.5 and row['PP\_CAN\_ID\_251'] >= 0.5 then:
           return 'normal'
78:
        else if row['D4'] < 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
79.
           return 'normal'
        else if row['D0'] >= 35.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
80.
81:
           return 'normal'
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82:
        else if row['D3'] >= 122.5 and row['D1'] >= 107.5 and row['D5'] < 0.5 then:
83:
           return 'normal'
84:
        else
85:
           return 'attack'
86: else if row['Arbitration\_ID'] == '140' then:
       if row['P\_CAN\_ID\_130'] >= 0.5 then:
87:
88:
           return 'normal'
89:
        else if row['D1'] >= 126.5 and row['D4'] >= 31.5 and row['D4'] < 35.0 then:
90:
91:
        else if row['PP\_CAN\_ID\_130'] >= 0.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
92:
           return 'normal
93:
        else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D0'] >= 147.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
94:
           return 'normal
95:
        else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D0'] >= 147.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
96:
           return 'normal
97:
        else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D0'] >= 147.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
98:
           return 'normal
99:
        else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D0'] >= 147.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
100:
            return 'normal
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D0'] >= 147.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
101:
102:
            return 'normal
103:
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D0'] >= 147.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
104:
            return 'normal
105:
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D0'] >= 147.5 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
106:
            return 'normal
107:
         else if row['P\ CAN\ ID\ 130'] >= 0.5 and row['D0'] >= 147.5 and row['PP\ CAN\ ID\ 366'] >= 0.5 then:
108:
            return 'normal
109:
         else if row['P\ CAN\ ID\ 130'] >= 0.5 and row['D0'] >= 147.5 and row['PP\ CAN\ ID\ 367'] >= 0.5 then:
110:
            return 'normal'
111:
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D0'] >= 147.5 and row['PP\_CAN\_ID\_356'] >= 0.5 then:
112:
            return 'normal'
113:
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D1'] >= 126.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
114:
            return 'normal'
115:
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D1'] >= 126.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
116:
            return 'normal'
117:
         else if row['P\ CAN\ ID\ 130'] >= 0.5 and row['D1'] >= 126.5 and row['PP\ CAN\ ID\ 340'] >= 0.5 then:
118:
            return 'normal'
119:
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D1'] >= 126.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
120:
            return 'normal'
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D1'] >= 126.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
121:
122:
            return 'normal'
123:
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D4'] >= 31.5 and row['D4'] < 32.5 then:
124:
            return 'normal'
125:
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D1'] >= 120.5 then:
126:
            return 'normal'
127:
         else if row['P\_CAN\_ID\_130'] >= 0.5 and row['D3'] >= 109.5 then:
128:
            return 'normal'
129:
         else if row['D3'] >= 109.5 and row['D4'] >= 31.5 and row['D4'] < 32.5 then:
130:
            return 'normal'
131:
         else
132:
            return 'attack'
133: else if row['Arbitration\_ID'] == '153' then:
         if row['D5'] >= 254.5 and row['D3'] >= 254.5 and row['D1'] >= 127.5 then:
134:
135:
            return 'normal'
136:
         else if row['D5'] >= 254.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
            return 'normal'
137:
138:
         else if row['D5'] >= 254.5 and row['P\_CAN\_ID\_140'] >= 0.5 then:
139:
            return 'normal'
140:
         else if row['D5'] >= 254.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
            return 'normal'
141:
142:
143:
         else if row['D5'] >= 254.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
            return 'normal'
144:
         else if row['D5'] >= 254.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
145:
            return 'normal'
146:
         else if row['D5'] >= 254.5 and row['P\_CAN\_ID\_366'] >= 0.5 then:
147:
            return 'normal'
148:
         else if row['D5'] >= 254.5 and row['P\_CAN\_ID\_356'] >= 0.5 then:
149:
            return 'normal'
150:
         else if row['D5'] >= 254.5 and row['PP\_CAN\_ID\_366'] >= 0.5 then:
151:
            return 'normal'
152:
         else if row['D5'] >= 254.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
153:
            return 'normal'
154:
         else if row['D5'] >= 254.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
155:
            return 'normal'
156:
         else if row['D3'] >= 254.5 and row['D1'] >= 127.5 then:
157:
            return 'normal'
158:
159:
            return 'attack'
160: else if row['Arbitration_ID'] == '164' then:
161:
         if row['P\_CAN\_ID\_394'] >= 0.5 and row['PP\_CAN\_ID\_492'] >= 0.5 then:
162:
            return 'normal'
163:
         else if row['DLC'] < 4.5 and row['D1'] >= 7.5 and row['PP\_CAN\_ID\_470'] >= 0.5 then:
164:
            return 'normal'
165:
         else if row['DLC'] < 4.5 and row['D1'] >= 7.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
166:
            return 'normal'
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167:
         else if row['DLC'] < 4.5 and row['D1'] >= 7.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
168:
            return 'normal'
169:
         else if row['DLC'] < 4.5 and row['D1'] >= 7.5 and row['PP\_CAN\_ID\_251'] >= 0.5 then:
170:
171:
         else if row['DLC'] < 4.5 and row['D1'] >= 7.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
172:
            return 'normal'
173:
         else if row['DLC'] < 4.5 and row['D1'] >= 7.5 and row['PP\_CAN\_ID\_58B'] >= 0.5 then:
174:
            return 'normal'
175:
         else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_394'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
176:
            return 'normal'
177:
         else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_394'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
178:
            return 'normal'
179:
         else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_394'] >= 0.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
180:
            return 'normal'
181:
         else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_394'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
182:
            return 'normal'
183:
         else if row['DLC'] < 4.5 and row['P_CAN_ID_394'] >= 0.5 and row['P_CAN_ID_260'] >= 0.5 then:
184:
            return 'normal'
185:
         else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_394'] >= 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
186:
            return 'normal'
187:
         else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_490'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
188:
            return 'normal'
189:
         else if row['DLC'] < 4.5 and row['P CAN ID 490'] >= 0.5 and row['PP CAN ID 4F1'] >= 0.5 then:
190:
            return inormal
191:
         else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_490'] >= 0.5 and row['PP\_CAN\_ID\_568'] >= 0.5 then:
192:
            return 'normal'
193:
         else if row['D1'] < 8.5 and row['D1'] >= 7.5 and row['P\_CAN\_ID\_394'] >= 0.5 then:
194:
            return 'normal'
195:
         else if row['D1'] < 8.5 and row['D1'] >= 7.5 and row['P\_CAN\_ID\_490'] >= 0.5 then:
196:
            return 'normal'
197:
         else if row['D1'] < 8.5 and row['D1'] >= 7.5 and row['P CAN ID 329'] >= 0.5 then:
198:
            return 'normal
199:
         else if row['D1'] < 8.5 and row['D1'] >= 7.5 and row['PP CAN ID 2B0'] >= 0.5 then:
200:
            return 'normal'
201:
         else if row['D1'] < 8.5 and row['D1'] >= 7.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
202:
            return 'normal
203:
         else if row['D1'] < 8.5 and row['D1'] >= 7.5 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
204:
            return 'normal'
205:
         else if row['D1'] < 8.5 and row['D1'] >= 7.5 and row['P\_CAN\_ID\_453'] >= 0.5 then:
206:
            return 'normal'
207:
         else if row['D1'] < 8.5 and row['D1'] >= 7.5 and row['P\_CAN\_ID\_492'] >= 0.5 then:
208:
            return 'normal
209:
         else if row['DLC'] < 4.5 and row['D1'] >= 7.5 then:
210:
            return 'normal'
211:
         else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_251'] >= 0.5 then:
212:
            return 'normal'
213:
         else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_381'] >= 0.5 then:
214:
            return 'normal'
215:
         else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
216:
            return 'normal'
217:
         else if row['P\_CAN\_ID\_394'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
218:
            return 'normal'
219:
         else if row['P\_CAN\_ID\_394'] >= 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
220:
            return 'normal'
221:
222:
         else if row['P\_CAN\_ID\_394'] >= 0.5 and row['PP\_CAN\_ID\_492'] >= 0.5 then:
            return 'normal'
223:
         else if row['P\_CAN\_ID\_490'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
224:
225:
            return 'normal'
         else if row['P\_CAN\_ID\_490'] >= 0.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
226:
227:
228:
            return 'normal'
         else if row['P\_CAN\_ID\_490'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
            return 'normal'
229:
         else if row['P\_CAN\_ID\_490'] >= 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
230:
            return 'normal'
231:
232:
233:
         else if row['DLC'] < 4.5 and row['D0'] < 0.5 and row['P\_CAN\_ID\_490'] >= 0.5 then:
            return 'normal'
         else if row['DLC'] < 4.5 and row['D0'] < 0.5 and row['P\_CAN\_ID\_492'] >= 0.5 then:
234:
            return 'normal'
235:
         else if row['DLC'] < 4.5 and row['D1'] < 8.5 and row['D1'] >= 7.5 then:
236:
            return 'normal'
237:
         else
238:
            return 'attack'
239: else if row['Arbitration\_ID'] == '220' then:
240:
         if row['D2'] >= 125.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
241:
            return 'normal'
242:
         else if row['D2'] >= 125.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
243:
244:
         else if row['D2'] >= 125.5 and row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_251'] >= 0.5 then:
245:
            return 'normal'
246:
         else if row['D2'] >= 125.5 and row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
247:
248:
         else if row['D5'] >= 236.5 and row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
249:
            return 'normal'
250:
         else if row['D5'] >= 236.5 and row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
251:
            return 'normal'
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252:
         else if row['D5'] >= 236.5 and row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
253:
            return 'normal'
254:
         else if row['D5'] >= 236.5 and row['P\_CAN\_ID\_000'] >= 0.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
255:
256:
         else if row['P\_CAN\_ID\_153'] >= 0.5 and row['D7'] >= 64.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
257:
            return 'normal'
258:
         else if row['D5'] >= 236.5 and row['P\_CAN\_ID\_153'] >= 0.5 then:
259:
            return 'normal'
260:
         else if row['D2'] >= 125.5 and row['D5'] >= 236.5 and row['D3'] < 0.5 then:
261:
            return 'normal'
262:
         else if row['D2'] >= 125.5 and row['D3'] < 0.5 and row['D6'] >= 14.5 then:
263:
            return 'normal'
264:
         else if row['D5'] >= 232.5 and row['P\_CAN\_ID\_153'] >= 0.5 then:
265:
            return 'normal'
266:
         else if row['D5'] >= 232.5 and row['P\_CAN\_ID\_541'] >= 0.5 then:
267:
            return 'normal'
268:
         else if row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
269:
            return 'normal'
270:
         else if row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
271:
            return 'normal'
272:
         else if row['D2'] >= 124.5 and row['D5'] >= 232.5 and row['D1'] >= 35.5 then:
273:
            return 'normal'
274:
         else if row['D2'] >= 124.5 and row['D5'] >= 232.5 and row['D1'] >= 3.5 then:
275:
            return 'normal'
276:
         else if row['D2'] >= 124.5 and row['D3'] < 0.5 and row['D6'] >= 14.5 then:
277:
            return 'normal'
278:
         else if row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
279:
            return 'normal
280:
         else if row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_251'] >= 0.5 then:
281:
            return 'normal'
282:
         else if row['D2'] >= 125.5 and row['D5'] >= 234.5 and row['PP\ CAN\ ID\ 356'] >= 0.5 then:
283:
            return 'normal'
284:
         else if row['D2'] >= 125.5 and row['D3'] < 0.5 and row['PP\ CAN\ ID\ 47F'] >= 0.5 then:
285:
            return 'normal'
286:
         else if row['D2'] >= 125.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_356'] >= 0.5 then:
287:
            return 'normal'
288:
         else if row['D5'] >= 234.5 and row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
289:
            return 'normal'
290:
         else if row['D5'] >= 234.5 and row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
291:
            return 'normal'
292:
         else if row['D5'] >= 234.5 and row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
293:
            return 'normal'
294:
         else if row['D5'] >= 234.5 and row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
295:
            return 'normal'
296:
         else if row['D5'] >= 234.5 and row['P\_CAN\_ID\_153'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
297:
            return 'normal'
298:
         else if row['D5'] >= 234.5 and row['P\_CAN\_ID\_000'] >= 0.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
299:
            return 'normal'
300:
         else if row['D5'] >= 234.5 and row['D3'] < 0.5 then:
301:
            return 'normal'
302:
         else if row['D5'] >= 234.5 and row['D6'] >= 62.5 then:
303:
            return 'normal'
304:
         else if row['D2'] >= 125.5 and row['D5'] >= 236.5 and row['D3'] < 1.5 then:
305:
            return 'normal'
306.
         else if row['D2'] >= 125.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_153'] >= 0.5 then:
307:
            return 'normal'
308:
         else if row['D2'] >= 125.5 and row['D3'] < 0.5 and row['D4'] < 0.5 then:
309.
            return 'normal'
310:
         else
311.
            return 'attack'
312: else if row['Arbitration_ID'] == '251' then:
313:
         if row['D0'] >= 236.5 and row['D5'] >= 226.5 then:
            return 'normal'
314:
315:
         else if row['D0'] >= 236.5 and row['D1'] < 5.0 then:
316:
            return 'normal'
317:
         else if row['D0'] >= 232.5 and row['D5'] >= 226.5 then:
318:
            return 'normal'
319:
         else if row['D5'] >= 226.5 and row['D0'] >= 228.5 then:
320:
            return 'normal'
321:
322:
323:
         else if row['P\_CAN\_ID\_381'] >= 0.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
            return 'normal'
         else if row['P\_CAN\_ID\_381'] >= 0.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
324:
325:
         else if row['D7'] >= 126.5 and row['D2'] >= 16.5 and row['P\_CAN\_ID\_381'] >= 0.5 then:
326:
            return 'normal'
327:
         else if row['D7'] >= 126.5 and row['D2'] >= 16.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
328:
329:
         else if row['D7'] >= 126.5 and row['D1'] < 5.0 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
330:
            return 'normal'
331:
         else if row['D7'] >= 126.5 and row['D1'] < 3.5 and row['D1'] >= 2.5 then:
332:
333:
         else if row['D7'] >= 126.5 and row['D2'] >= 16.5 and row['D7'] < 129.5 then:
334:
            return 'normal'
335:
         else if row['D1'] < 5.0 and row['D3'] >= 48.5 and row['D1'] >= 2.5 then:
336:
            return 'normal'
```

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337:
         else if row['P\_CAN\_ID\_164'] >= 0.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
338:
            return 'normal'
339:
         else if row['P\_CAN\_ID\_164'] >= 0.5 and row['PP\_CAN\_ID\_394'] >= 0.5 then:
340:
341:
         else if row['P\_CAN\_ID\_164'] >= 0.5 and row['PP\_CAN\_ID\_381'] >= 0.5 then:
342:
            return 'normal'
343:
         else if row['P\_CAN\_ID\_164'] >= 0.5 and row['PP\_CAN\_ID\_485'] >= 0.5 then:
344:
            return 'normal'
345:
         else if row['P\ CAN\ ID\ 381'] >= 0.5 and row['PP\ CAN\ ID\ 329'] >= 0.5 then:
346:
            return 'normal'
347:
         else if row['P\_CAN\_ID\_381'] >= 0.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
348:
            return 'normal
349:
         else if row['PP\_CAN\_ID\_130'] < 0.5 and row['P\_CAN\_ID\_140'] >= 0.5 then:
350:
            return 'normal
351:
         else if row['PP\_CAN\_ID\_329'] >= 0.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
352:
            return 'normal'
353:
         else if row['D7'] >= 112.5 and row['D1'] < 5.5 and row['P\_CAN\_ID\_381'] >= 0.5 then:
354:
            return 'normal'
355:
         else if row['D7'] >= 112.5 and row['D1'] < 5.5 and row['PP\_CAN\_ID\_490'] >= 0.5 then:
356:
            return 'normal'
357:
         else if row['D7'] >= 112.5 and row['D1'] < 5.5 and row['PP\_CAN\_ID\_492'] >= 0.5 then:
358:
            return 'normal'
359:
         else if row['D7'] >= 112.5 and row['D6'] >= 38.5 and row['P CAN ID 164'] >= 0.5 then:
360:
            return 'normal'
361:
         else if row['D7'] >= 112.5 and row['D6'] >= 22.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
362:
            return 'normal'
363:
         else if row['D7'] >= 112.5 and row['P\_CAN\_ID\_164'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
364:
            return 'normal'
365:
         else if row['D7'] >= 112.5 and row['P\_CAN\_ID\_164'] >= 0.5 and row['PP\_CAN\_ID\_356'] >= 0.5 then:
366:
            return 'normal'
367:
         else if row['D1'] < 5.5 and row['D6'] >= 38.5 and row['P CAN ID 164'] >= 0.5 then:
368:
            return 'normal'
369:
         else if row['D1'] < 5.5 and row['D0'] >= 44.5 and row['PP\ CAN\ ID\ 389'] >= 0.5 then:
370:
            return 'normal'
371:
         else if row['D1'] < 5.5 and row['D2'] >= 28.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
372:
            return 'normal
373:
         else if row['D1'] < 5.5 and row['D3'] >= 65.5 and row['P\_CAN\_ID\_356'] >= 0.5 then:
374:
            return 'normal'
375:
         else if row['D1'] < 5.5 and row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_356'] >= 0.5 then:
376:
            return 'normal'
377:
         else if row['D6'] >= 38.5 and row['D4'] < 0.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
378:
            return 'normal'
379:
         else if row['D0'] >= 44.5 and row['D5'] >= 80.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
380:
            return 'normal'
381:
         else if row['D2'] >= 28.5 and row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
382:
            return 'normal'
383:
         else if row['D7'] >= 112.5 and row['D1'] < 5.5 then:
384:
            return 'normal'
385:
         else if row['D6'] >= 38.5 and row['P\_CAN\_ID\_381'] >= 0.5 then:
386:
            return 'normal'
387:
         else
388:
            return 'attack'
389: else if row['Arbitration_ID'] == '260' then:
390:
         if row['D5'] >= 184.5 and row['D4'] >= 254.5 and row['P\_CAN\_ID\_251'] >= 0.5 then:
391.
            return 'normal'
392.
         else if row['D6'] >= 72.5 and row['D4'] >= 254.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
393.
            return 'normal'
394.
         else if row['D6'] >= 72.5 and row['D4'] >= 254.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
395:
            return 'normal'
396:
         else if row['D6'] >= 72.5 and row['D4'] >= 254.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
397.
            return 'normal'
398:
         else if row['D6'] >= 72.5 and row['D4'] >= 254.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
399:
            return 'normal'
400:
         else if row['D6'] >= 72.5 and row['D4'] >= 254.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
            return 'normal'
401:
402:
         else if row['D1'] >= 45.5 and row['D4'] >= 254.5 and row['P\_CAN\_ID\_220'] >= 0.5 then:
403:
            return 'normal'
404:
         else if row['D1'] >= 21.5 and row['D4'] >= 254.5 and row['P\_CAN\_ID\_220'] >= 0.5 then:
405:
            return 'normal'
406:
         else if row['D4'] >= 254.5 and row['D3'] >= 47.5 and row['D3'] < 48.5 then:
407:
            return 'normal'
408:
         else if row['D3'] >= 47.5 and row['D3'] < 48.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
409:
            return 'normal'
410:
         else if row['D0'] < 5.5 and row['D0'] >= 4.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
411:
            return 'normal'
412:
         else if row['D0'] < 5.5 and row['D0'] >= 4.5 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
413:
            return 'normal'
414:
         else if row['D0'] < 5.5 and row['D0'] >= 4.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
415:
            return 'normal'
416:
         else if row['D0'] < 5.5 and row['D0'] >= 4.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
417:
            return 'normal'
418:
         else if row['D0'] < 5.5 and row['D0'] >= 4.5 and row['P\_CAN\_ID\_220'] >= 0.5 then:
419:
            return 'normal'
420:
         else if row['D0'] < 5.5 and row['D0'] >= 4.5 and row['P\_CAN\_ID\_251'] >= 0.5 then:
421:
            return 'normal'
```

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422:
         else if row['D0'] < 5.5 and row['D0'] >= 4.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
423:
            return 'normal'
424:
         else if row['D0'] < 5.5 and row['D0'] >= 4.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
425:
426:
         else if row['D0'] < 5.5 and row['D0'] >= 4.5 then:
427:
            return 'normal'
428:
         else if row['D5'] >= 185.5 and row['P\_CAN\_ID\_479'] >= 0.5 then:
429:
            return 'normal'
430:
         else if row['D4'] >= 254.0 and row['P\_CAN\_ID\_140'] >= 0.5 then:
431:
            return 'normal'
432:
         else if row['D4'] >= 254.0 and row['P\_CAN\_ID\_470'] >= 0.5 then:
433:
            return 'normal'
434:
         else if row['D4'] >= 254.0 and row['PP\_CAN\_ID\_470'] >= 0.5 then:
435:
            return 'normal'
436:
         else if row['D4'] >= 254.0 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
437:
            return 'normal'
438:
         else if row['D4'] >= 254.0 and row['P\_CAN\_ID\_541'] >= 0.5 then:
439:
            return 'normal'
440:
         else if row['D4'] >= 254.0 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
441:
            return 'normal'
442:
         else if row['D4'] >= 254.0 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
443:
            return 'normal'
444:
         else if row['D4'] >= 254.0 and row['P CAN ID 340'] >= 0.5 then:
445:
            return 'normal'
446:
         else if row['D4'] >= 254.0 and row['P\_CAN\_ID\_368'] >= 0.5 then:
447:
            return 'normal'
448:
         else if row['D4'] >= 254.0 and row['PP\_CAN\_ID\_436'] >= 0.5 then:
449:
            return 'normal'
450:
         else if row['D4'] >= 254.0 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
451:
            return 'normal'
452:
         else if row['D2'] < 11.5 and row['P \ CAN \ ID \ 541'] >= 0.5 then:
453:
            return 'normal'
454:
         else if row['P\ CAN\ ID\ 470'] >= 0.5 and row['PP\ CAN\ ID\ 368'] >= 0.5 then:
455:
            return 'normal'
456:
         else if row['D5'] >= 185.5 and row['D6'] >= 70.5 and row['D4'] >= 254.0 then:
457:
            return 'normal'
458:
         else if row['D5'] >= 185.5 and row['D6'] >= 70.5 and row['P\_CAN\_ID\_470'] >= 0.5 then:
459:
            return 'normal'
460:
         else if row['D5'] >= 185.5 and row['D6'] >= 70.5 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
461:
            return 'normal'
462:
         else if row['D5'] >= 185.5 and row['D6'] >= 70.5 and row['PP CAN ID 220'] >= 0.5 then:
463:
            return 'normal'
464:
         else if row['D5'] >= 185.5 and row['D4'] >= 254.0 and row['D1'] >= 30.5 then:
465:
            return 'normal'
466:
         else if row['D5'] >= 185.5 and row['D3'] >= 47.5 and row['D3'] < 48.5 then:
467:
            return 'normal'
468:
         else
469:
            return 'attack'
470: else if row['Arbitration\_ID'] == '2B0' then:
471:
         if row['P\_CAN\_ID\_251'] >= 0.5 and row['D1'] >= 254.5 then:
472:
            return 'normal'
473:
         else if row['DLC'] < 6.5 and row['D1'] >= 254.5 then:
474:
            return 'normal'
475:
         else if row['P\_CAN\_ID\_251'] >= 0.5 and row['DLC'] < 6.5 and row['D4'] >= 55.5 then:
476:
            return 'normal'
477:
         else if row['P\_CAN\_ID\_251'] >= 0.5 and row['DLC'] < 6.5 and row['D5'] >= 49.5 then:
478:
            return 'normal'
479:
         else if row['P\_CAN\_ID\_251'] >= 0.5 and row['D4'] >= 50.5 then:
480:
            return 'normal'
481:
         else if row['P\_CAN\_ID\_251'] >= 0.5 and row['D4'] >= 49.5 then:
482:
            return 'normal'
483:
         else if row['P\_CAN\_ID\_251'] >= 0.5 and row['D3'] < 7.5 then:
484:
            return 'normal'
485:
         else if row['DLC'] < 6.5 and row['D1'] >= 237.5 then:
486:
            return 'normal'
487:
         else if row['DLC'] < 6.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
488:
            return 'normal'
489:
         else if row['DLC'] < 6.5 and row['D4'] >= 50.5 and row['D0'] >= 32.5 then:
            return 'normal'
490:
491:
         else if row['DLC'] < 6.5 and row['D4'] >= 50.5 and row['D2'] < 11.5 then:
492:
            return 'normal'
493:
         else if row['DLC'] < 6.5 and row['D3'] < 7.5 and row['D5'] >= 52.5 then:
494:
            return 'normal'
495:
         else
496:
            return 'attack'
497: else if row['Arbitration\_ID'] == '329' then:
498:
         if row['D1'] >= 194.5 and row['D4'] >= 48.5 and row['D4'] < 49.5 then:
499:
            return 'normal'
500:
         else if row['D3'] >= 139.5 and row['D3'] < 140.5 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
501:
            return 'normal'
502:
         else if row['D3'] >= 139.5 and row['D3'] < 140.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
503:
            return 'normal'
504:
         else if row['D3'] >= 139.5 and row['D3'] < 140.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
505:
         else if row['D3'] >= 139.5 and row['D3'] < 140.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
506:
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507.
508:
         else if row['D1'] >= 195.5 and row['P\_CAN\_ID\_260'] >= 0.5 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
509:
            return 'normal'
510:
         else if row['D1'] >= 195.5 and row['P \ CAN \ ID \ 260'] >= 0.5 and row['PP \ CAN \ ID \ 340'] >= 0.5 then:
511:
            return 'normal'
512:
         else if row['D2'] >= 124.5 and row['D1'] >= 195.5 then:
513:
            return 'normal'
514:
         else if row['D3'] >= 139.5 and row['D3'] < 140.5 then:
515:
516:
         else if row['P\_CAN\_ID\_260'] >= 0.5 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
517:
            return 'normal'
518:
         else if row['P \ CAN \ ID \ 260'] >= 0.5 and row['PP \ CAN \ ID \ 164'] >= 0.5 then:
519:
            return 'normal'
520:
         else if row[PP\ CAN\ ID\ 260'] >= 0.5 and row[P\ CAN\ ID\ 280'] >= 0.5 then:
521:
            return 'normal'
522:
         else if row['P\_CAN\_ID\_140'] >= 0.5 and row['PP\_CAN\_ID\_130'] < 0.5 then:
523:
            return 'normal
524:
         else if row['D1'] >= 190.5 and row['D3'] >= 139.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
525:
            return 'normal
526:
         else if row['D1'] >= 190.5 and row['D3'] >= 139.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
527:
            return 'normal'
528:
         else if row['D1'] >= 190.5 and row['D4'] >= 48.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
529:
            return 'normal'
530:
         else if row['D1'] >= 190.5 and row['D4'] >= 48.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
531:
            return 'normal'
532:
         else if row['D1'] >= 190.5 and row['D4'] >= 48.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
533:
            return 'normal'
534:
         else if row['D1'] >= 190.5 and row['D4'] >= 48.5 and row['P CAN ID 220'] >= 0.5 then:
535:
            return 'normal'
536:
         else if row['D1'] >= 190.5 and row['D4'] >= 48.5 and row['P\_CAN\_ID\_153'] >= 0.5 then:
537:
            return 'normal'
538:
         else if row['D1'] >= 190.5 and row['D4'] >= 48.5 and row['P\_CAN\_ID\_58B'] >= 0.5 then:
539:
            return 'normal'
540:
         else if row['D1'] >= 190.5 and row['D0'] >= 73.5 and row['PP\ CAN\ ID\ 220'] >= 0.5 then:
541:
            return 'normal'
542:
         else if row['D1'] >= 190.5 and row['D0'] >= 73.5 and row['PP\ CAN\ ID\ 4F1'] >= 0.5 then:
543:
            return 'normal'
544:
         else if row['D1'] >= 190.5 and row['D7'] < 16.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
545:
            return 'normal'
         else if row['D1'] >= 190.5 and row['D6'] < 0.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
546:
547:
            return 'normal'
548:
         else if row['D1'] >= 190.5 and row['D4'] < 50.5 and row['D4'] >= 49.5 then:
549:
            return 'normal'
550:
         else if row['D2'] >= 124.5 and row['D4'] >= 48.5 and row['D2'] < 125.5 then:
551:
            return 'normal'
552:
         else if row['D2'] >= 124.5 and row['D2'] < 126.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
553:
            return 'normal'
554:
         else if row['D2'] >= 124.5 and row['D2'] < 126.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
555:
            return 'normal'
556:
         else if row['D3'] >= 139.5 and row['D4'] >= 48.5 and row['D4'] < 49.5 then:
557:
            return 'normal'
558:
         else if row['D1'] >= 190.5 and row['D2'] >= 124.5 and row['P\ CAN\ ID\ 164'] >= 0.5 then:
559:
            return 'normal'
560:
         else if row['D1'] >= 190.5 and row['D4'] >= 48.5 and row['D4'] < 50.5 then:
561.
            return 'normal'
562:
         else
563:
            return 'attack'
564: else if row['Arbitration\_ID'] == '340' then:
        if row['D4'] >= 53.5 and row['D0'] >= 251.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
565:
566:
            return 'normal'
567:
         else if row['D4'] >= 53.5 and row['D0'] >= 251.5 and row['PP\_CAN\_ID\_421'] >= 0.5 then:
568:
            return 'normal'
569:
         else if row['D6'] >= 17.5 and row['D2'] < 0.5 and row['D0'] >= 251.5 then:
570:
            return 'normal'
571:
         else if row['D1'] < 3.5 and row['D2'] < 0.5 and row['D0'] >= 251.5 then:
572:
            return 'normal'
573:
         else if row['D4'] >= 53.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
            return 'normal'
574:
575:
         else if row['D4'] >= 53.5 and row['D6'] >= 17.5 and row['D5'] < 33.5 then:
576:
            return 'normal'
577:
         else if row['D6'] >= 17.5 and row['D5'] < 33.5 and row['P\_CAN\_ID\_420'] >= 0.5 then:
578:
            return 'normal'
579:
         else if row['D4'] >= 37.5 and row['D0'] >= 248.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
580:
            return 'normal'
581:
         else if row['D5'] < 33.5 and row['D3'] >= 227.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
582:
            return 'normal'
583:
         else if row['D0'] >= 248.5 and row['PP\_CAN\_ID\_220'] >= 0.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
584:
            return 'normal'
585:
         else if row['D6'] >= 33.5 and row['D0'] >= 248.5 then:
586:
            return 'normal'
587:
         else if row['D6'] >= 33.5 and row['D4'] >= 37.5 and row['D5'] < 33.5 then:
588:
589:
         else if row['D7'] >= 47.5 and row['D7'] < 60.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
590:
591:
         else if row['D5'] < 33.5 and row['D5'] >= 0.5 and row['D0'] >= 248.5 then:
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592.
593:
         else if row['D5'] < 33.5 and row['D5'] >= 0.5 and row['P\_CAN\_ID\_420'] >= 0.5 then:
594:
            return 'normal'
595:
         else if row['D6'] >= 17.5 and row['D0'] >= 250.0 then:
596:
            return 'normal'
597:
         else if row['D6'] >= 17.5 and row['P\_CAN\_ID\_367'] >= 0.5 then:
598:
            return 'normal'
599:
         else if row['D1'] < 3.5 and row['D0'] >= 250.0 then:
600:
601:
         else if row['P\_CAN\_ID\_389'] >= 0.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
602:
            return 'normal'
603:
         else if row['P\_CAN\_ID\_260'] >= 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
604:
605:
         else if row['D6'] >= 17.5 and row['D4'] >= 35.0 and row['D5'] < 33.5 then:
606:
            return 'normal'
607:
         else if row['D6'] >= 17.5 and row['D7'] >= 47.5 and row['D7'] < 48.5 then:
608:
            return 'normal'
609:
         else if row['D7'] >= 47.5 and row['D1'] < 3.5 and row['D7'] < 48.5 then:
610:
            return 'normal'
611:
         else if row['D4'] >= 53.5 and row['P\_CAN\_ID\_367'] >= 0.5 then:
612:
            return 'normal'
613:
         else if row['D4'] >= 37.5 and row['P\_CAN\_ID\_367'] >= 0.5 then:
614:
            return 'normal'
615:
         else if row['D0'] >= 251.5 and row['PP\_CAN\_ID\_421'] >= 0.5 then:
616:
            return 'normal'
617:
         else if row['D0'] >= 251.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
618:
            return 'normal'
619:
         else if row['D0'] >= 251.5 and row['PP\ CAN\ ID\ 2B0'] >= 0.5 then:
620:
            return 'normal'
621:
         else if row['D3'] >= 227.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
622:
            return 'normal
623:
         else if row['PP\_CAN\_ID\_420'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
624:
            return 'normal
625:
         else if row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
626:
            return 'normal'
627:
         else if row['D1'] < 3.5 and row['D4'] >= 53.5 and row['PP CAN ID 421'] >= 0.5 then:
628:
            return 'normal
629:
         else if row['D1'] < 3.5 and row['D4'] >= 53.5 and row['PP\_CAN\_ID\_420'] >= 0.5 then:
630:
            return 'normal
631:
         else if row['D1'] < 3.5 and row['D4'] >= 53.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
632:
            return 'normal
633:
         else if row['D1'] < 3.5 and row['D4'] >= 53.5 and row['P\_CAN\_ID\_420'] >= 0.5 then:
634:
            return 'normal'
635:
         else if row['D1'] < 3.5 and row['D4'] >= 37.5 and row['P\_CAN\_ID\_420'] >= 0.5 then:
636:
            return 'normal'
637:
         else if row['D1'] < 3.5 and row['D6'] >= 20.5 and row['P\_CAN\_ID\_420'] >= 0.5 then:
638:
            return 'normal'
639:
         else if row['D1'] < 3.5 and row['D6'] >= 20.5 and row['P\_CAN\_ID\_367'] >= 0.5 then:
640:
            return 'normal'
641:
         else if row['D1'] < 3.5 and row['D4'] >= 69.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
642:
            return 'normal'
643:
         else if row['D1'] < 3.5 and row['D7'] >= 47.5 and row['D7'] < 48.5 then:
644:
            return 'normal'
645:
         else if row['D4'] >= 53.5 and row['D3'] >= 35.5 and row['D3'] < 36.5 then:
646.
            return 'normal'
647:
         else if row['D2'] < 0.5 and row['D7'] >= 47.5 and row['D7'] < 48.5 then:
648:
            return 'normal'
649.
         else
650:
            return 'attack'
651: else if row['Arbitration\_ID'] == '356' then:
652:
         if row['D3'] >= 127.5 and row['D1'] < 0.5 then:
653:
            return 'normal'
654:
         else if row['P\_CAN\_ID\_000'] >= 0.5 then:
655:
            return 'normal'
656:
         else if row['PP\_CAN\_ID\_386'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
657:
            return 'normal'
         else if row['P\_CAN\_ID\_386'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
658:
            return 'normal'
659:
660:
         else if row['P\_CAN\_ID\_140'] >= 0.5 and row['PP\_CAN\_ID\_130'] < 0.5 then:
661:
            return 'normal'
662:
         else if row['PP\_CAN\_ID\_329'] >= 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
663:
            return 'normal'
664:
         else if row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
665:
            return 'normal'
666:
         else if row['D3'] >= 127.5 and row['D1'] < 0.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
667:
            return 'normal'
668:
         else if row['D3'] >= 127.5 and row['D1'] < 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
669:
670:
         else if row['D3'] >= 127.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
671:
            return 'normal'
672:
         else if row['D3'] >= 127.5 and row['D1'] < 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
673:
            return 'normal'
674:
         else if row['D3'] >= 127.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
675:
676:
         else if row['D3'] >= 127.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
```

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677.
678:
         else if row['D3'] >= 127.5 and row['D3'] < 128.5 and row['P\_CAN\_ID\_140'] >= 0.5 then:
679:
            return 'normal'
680:
         else if row['D3'] >= 127.5 and row['PP\ CAN\ ID\ 140'] >= 0.5 and row['P\ CAN\ ID\ 492'] >= 0.5 then:
681:
            return 'normal'
682:
         else if row['D6'] < 0.5 and row['D4'] >= 13.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
683:
            return 'normal'
684:
         else if row['D4'] >= 13.5 and row['P\_CAN\_ID\_340'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
685:
686:
         else if row['D3'] >= 127.5 and row['D1'] < 0.5 then:
687:
            return 'normal'
688:
689:
            return 'attack'
690: else if row['Arbitration\_ID'] == '366' then:
691:
         if row['DLC'] < 7.5 and row['D6'] >= 0.5 then:
692:
            return 'normal'
693:
         else
694:
            return 'attack'
695: else if row['Arbitration ID'] == '367' then:
696:
         if row[P_CAN_ID_366] >= 0.5 and row[D6] >= 160.5 and row[P_CAN_ID_000] >= 0.5 then:
697:
            return 'normal
698:
         else if row['P\_CAN\_ID\_366'] >= 0.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
699:
            return 'normal'
700:
         else if row['D6'] >= 160.5 and row['PP\ CAN\ ID\ 356'] >= 0.5 and row['D5'] < 0.5 then:
701:
            return 'normal'
702:
         else if row['D6'] >= 160.5 and row['D3'] < 0.5 and row['D2'] < 0.5 then:
703:
            return 'normal'
704:
         else if row['P\_CAN\_ID\_366'] >= 0.5 and row['PP\_CAN\_ID\_356'] >= 0.5 and row['D3'] < 0.5 then:
705:
            return 'normal'
706:
         else if row['D6'] < 145.5 then:
707:
            return 'normal'
708:
         else
709:
            return 'attack'
710: else if row['Arbitration\_ID'] == '368' then:
711:
         if row['P\_CAN\_ID\_367'] >= 0.5 and row['D7'] >= 63.5 and row['D7'] < 64.5 then:
712:
            return 'normal'
713:
714:
         else if row['D7'] >= 63.5 and row['PP\_CAN\_ID\_367'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
            return 'normal'
715:
         else if row['D7'] >= 63.5 and row['D5'] >= 193.5 and row['D7'] < 64.5 then:
716:
            return 'normal'
717:
718:
         else if row['P\_CAN\_ID\_367'] >= 0.5 and row['D3'] < 0.5 then:
            return 'normal'
719:
720:
721:
722:
         else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_367'] >= 0.5 and row['P\_CAN\_ID\_368'] < 0.5 then:
            return 'normal'
         else if row['D7'] >= 63.5 and row['D1'] < 0.5 and row['D7'] < 64.5 then:
            return 'normal'
723:
         else if row['P\_CAN\_ID\_367'] >= 0.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
724:
725:
            return 'normal'
         else if row['P\_CAN\_ID\_367'] >= 0.5 and row['D2'] >= 21.5 and row['PP\_CAN\_ID\_356'] >= 0.5 then:
726:
727:
            return 'normal'
         else if row['P\_CAN\_ID\_367'] >= 0.5 and row['D4'] >= 0.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
728:
729:
            return 'normal'
         else if row['P\_CAN\_ID\_367'] >= 0.5 and row['D4'] >= 0.5 and row['PP\_CAN\_ID\_356'] >= 0.5 then:
730:
731:
         else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_367'] >= 0.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
732:
            return 'normal'
733:
         else if row['D0'] < 0.5 and row['PP\_CAN\_ID\_367'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
734:
            return 'normal
735:
         else if row['P\_CAN\_ID\_367'] >= 0.5 then:
736:
            return 'normal'
737:
         else if row['D3'] < 0.5 and row['D7'] >= 65.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
738:
            return 'normal'
739:
         else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_220'] >= 0.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
740:
            return 'normal'
741:
         else if row['D5'] >= 53.5 and row['D4'] >= 0.5 and row['D4'] < 3.5 then:
742:
            return 'normal'
743:
         else if row['D4'] >= 0.5 and row['D4'] < 3.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
744:
745:
         else if row['P\_CAN\_ID\_367'] >= 0.5 and row['D3'] < 0.5 then:
746:
747:
         else if row['PP\_CAN\_ID\_367'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
748:
            return 'normal'
749:
         else if row['D3'] < 0.5 and row['P\_CAN\_ID\_220'] >= 0.5 then:
750:
751:
         else if row['D3'] < 0.5 and row['D7'] >= 65.5 and row['P\_CAN\_ID\_140'] >= 0.5 then:
752:
753:
         else if row['D3'] < 0.5 and row['D2'] >= 22.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
754:
            return 'normal'
755:
         else
756:
            return 'attack'
757: else if row['Arbitration_ID'] == '381' then:
758:
         if row['D0'] >= 127.5 and row['D0'] < 128.5 and row['P\_CAN\_ID\_492'] >= 0.5 then:
759:
            return 'normal'
760:
         else if row['D0'] >= 127.5 and row['D3'] < 0.5 then:
761:
            return 'normal'
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762:
         else if row['P\_CAN\_ID\_368'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
763:
            return 'normal'
764:
         else if row['P\_CAN\_ID\_340'] >= 0.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
765:
766:
         else if row['P\_CAN\_ID\_387'] >= 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
767:
            return 'normal'
768:
         else if row['PP\_CAN\_ID\_2B0'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
769:
            return 'normal'
770:
         else if row['D0'] >= 127.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
771:
772:
         else if row['D0'] >= 127.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
773:
            return 'normal'
774:
         else if row['D0'] >= 127.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
775:
            return 'normal'
776:
         else if row['D0'] >= 127.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
777:
            return 'normal'
778:
         else if row['D0'] >= 127.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
779:
            return 'normal'
780:
         else if row['D0'] >= 127.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
781:
            return 'normal'
782:
         else if row['D0'] >= 127.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
783:
            return 'normal'
784:
         else if row['D0'] >= 127.5 and row['D6'] >= 32.5 and row['P CAN ID 389'] >= 0.5 then:
785:
            return 'normal'
786:
         else if row['D0'] >= 127.5 and row['D6'] >= 32.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
787:
            return 'normal'
788:
         else if row['D0'] >= 127.5 and row['D0'] < 128.5 and row['P\_CAN\_ID\_389'] >= 0.5 then:
789:
            return 'normal'
790:
         else if row['D0'] >= 127.5 and row['PP\_CAN\_ID\_340'] >= 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
791:
            return 'normal'
792:
         else if row['D3'] < 0.5 and row['D4'] < 0.5 and row['P CAN ID 2B0'] >= 0.5 then:
793:
            return 'normal'
794:
         else if row['D6'] >= 32.5 and row['D7'] < 5.5 and row['PP\ CAN\ ID\ 368'] >= 0.5 then:
795:
            return 'normal'
796:
         else if row['D6'] >= 32.5 and row['D1'] >= 47.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
797:
            return 'normal
798:
         else if row['D7'] < 5.5 and row['D7'] >= 4.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
799:
            return 'normal'
800:
         else if row['D7'] < 5.5 and row['D7'] >= 4.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
801:
            return 'normal'
802:
         else if row['D7'] < 5.5 and row['D7'] >= 4.5 and row['P CAN ID 140'] >= 0.5 then:
803:
            return 'normal'
804:
         else if row['D7'] < 5.5 and row['D7'] >= 4.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
805:
            return 'normal'
806:
         else if row['D7'] < 5.5 and row['D7'] >= 4.5 then:
807:
            return 'normal'
808:
         else
809:
            return 'attack'
810: else if row['Arbitration\_ID'] == '386' then:
         if row['D6'] < 0.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
811:
812:
            return 'normal'
813:
         else if row['D7'] >= 127.5 and row['D6'] < 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
814:
            return 'normal'
815:
         else if row['D7'] >= 127.5 and row['D6'] < 0.5 and row['D7'] < 128.5 then:
816:
            return 'normal'
817:
         else if row['P\_CAN\_ID\_000'] >= 0.5 then:
818:
            return 'normal'
         else if row['P\_CAN\_ID\_164'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
819.
820:
            return 'normal'
821:
822:
823:
         else if row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
            return 'normal'
         else if row['P\_CAN\_ID\_329'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
824:
            return 'normal'
825:
         else if row['D4'] >= 50.5 and row['D7'] >= 63.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
826:
            return 'normal'
827:
         else if row['D4'] >= 50.5 and row['D7'] >= 63.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
828:
            return 'normal'
829:
         else if row['D4'] >= 50.5 and row['D7'] >= 63.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
830:
            return 'normal'
831:
         else if row['D4'] >= 50.5 and row['D7'] >= 63.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
832:
            return 'normal'
833:
         else if row['D4'] >= 50.5 and row['D0'] >= 37.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
834:
            return 'normal'
835:
         else if row['D4'] >= 50.5 and row['D0'] >= 37.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
836:
            return 'normal'
837:
         else if row['D4'] >= 50.5 and row['D2'] >= 28.5 and row['D7'] >= 127.5 then:
838:
            return 'normal'
839:
         else if row['D4'] >= 50.5 and row['D1'] >= 63.5 and row['D3'] >= 63.5 then:
840:
            return 'normal'
841:
         else if row['D6'] >= 32.5 and row['D7'] >= 63.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
842:
843:
         else if row['D6'] >= 32.5 and row['D0'] >= 37.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
844:
            return 'normal'
845:
         else if row['D6'] >= 32.5 and row['D1'] >= 63.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
846:
            return 'normal'
```

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847:
         else if row['D6'] >= 32.5 and row['D3'] >= 63.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
848:
            return 'normal'
849:
         else if row['D7'] >= 63.5 and row['D5'] >= 63.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
850:
851:
         else if row['D1'] >= 63.5 and row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
852:
            return 'normal'
853:
         else if row['D4'] >= 50.5 and row['D6'] >= 32.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
854:
            return 'normal'
855:
         else if row['D4'] >= 49.5 and row['D1'] >= 127.5 and row['P\ CAN\ ID\ 368'] >= 0.5 then:
856:
            return 'normal'
857:
         else if row['D6'] >= 32.5 and row['D7'] >= 127.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
858:
            return 'normal'
859:
         else if row['D6'] >= 32.5 and row['D1'] >= 63.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
860:
            return 'normal'
861:
         else if row['D7'] >= 63.5 and row['D1'] >= 63.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
862:
            return 'normal'
863:
         else if row['D5'] >= 63.5 and row['D3'] >= 63.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
864:
            return 'normal'
865:
         else if row['D3'] >= 63.5 and row['D1'] >= 127.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
866:
            return 'normal'
867:
         else
868:
            return 'attack'
869: else if row['Arbitration ID'] == '387' then:
870:
         if row['D7'] < 0.5 and row['PP\_CAN\_ID\_394'] >= 0.5 then:
871:
            return 'normal'
872:
         else if row['D2'] >= 27.5 and row['D7'] < 0.5 and row['PP\ CAN\ ID\ 164'] >= 0.5 then:
873:
            return 'normal'
874:
         else if row['D2'] >= 27.5 and row['D7'] < 0.5 and row['P CAN ID 368'] >= 0.5 then:
875:
            return 'normal'
876:
         else if row['D7'] < 0.5 and row['D4'] < 0.5 then:
877:
            return 'normal'
878:
         else if row['P\_CAN\_ID\_000'] >= 0.5 then:
879:
            return 'normal'
880:
         else if row['P\_CAN\_ID\_381'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
881:
            return 'normal'
882:
         else if row['PP\ CAN\ ID\ 394'] >= 0.5 and row['P\ CAN\ ID\ 329'] >= 0.5 then:
883:
            return 'normal'
884:
         else if row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_394'] >= 0.5 then:
885:
            return 'normal
886:
         else if row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
887:
            return 'normal'
888:
         else if row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
889:
            return 'normal'
890:
         else if row['P\_CAN\_ID\_329'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
891:
            return 'normal'
892:
         else if row['D7'] < 0.5 and row['D0'] >= 32.5 and row['P\_CAN\_ID\_381'] >= 0.5 then:
893:
            return 'normal'
894:
         else if row['D7'] < 0.5 and row['D2'] >= 38.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
895:
            return 'normal'
896:
         else if row['D7'] < 0.5 and row['D4'] < 0.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
897:
            return 'normal'
898:
         else if row['D7'] < 0.5 and row['D5'] >= 48.5 and row['P\_CAN\_ID\_381'] >= 0.5 then:
899:
            return 'normal'
900:
         else if row['D7'] < 0.5 and row['D1'] >= 65.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
901.
            return 'normal'
902.
         else if row['D2'] >= 30.5 and row['P\_CAN\_ID\_394'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
903:
            return 'normal'
904.
         else if row['D4'] < 0.5 and row['D5'] >= 48.5 and row['P\_CAN\_ID\_394'] >= 0.5 then:
905:
            return 'normal'
906:
         else if row['D5'] >= 48.5 and row['D1'] >= 65.5 and row['PP\_CAN\_ID\_394'] >= 0.5 then:
907.
            return 'normal'
         else if row['P\_CAN\_ID\_381'] >= 0.5 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
908:
909.
            return 'normal'
910:
         else if row['D7'] < 0.5 and row['D0'] >= 32.5 and row['PP\_CAN\_ID\_394'] >= 0.5 then:
911:
            return 'normal'
912:
         else if row['D7'] < 0.5 and row['D0'] >= 32.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
913:
            return 'normal'
914:
         else if row['D7'] < 0.5 and row['D0'] >= 32.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
915:
            return 'normal'
916:
         else if row['D7'] < 0.5 and row['D0'] >= 32.5 and row['P\_CAN\_ID\_140'] >= 0.5 then:
917:
            return 'normal'
918:
         else if row['D7'] < 0.5 and row['D2'] >= 30.5 and row['D5'] >= 48.5 then:
919:
            return 'normal'
920:
         else if row['D7'] < 0.5 and row['D4'] < 0.5 and row['D5'] >= 48.5 then:
921:
            return 'normal'
922:
         else if row['D7'] < 0.5 and row['D4'] < 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
923:
            return 'normal'
924:
         else
925:
            return 'attack'
926: else if row['Arbitration_ID'] == '389' then:
927:
         if row['D6'] >= 27.5 and row['D7'] < 0.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
928:
            return 'normal'
929:
         else if row['D6'] >= 27.5 and row['D7'] < 0.5 and row['P\_CAN\_ID\_50A'] >= 0.5 then:
930:
931:
         else if row['PP\_CAN\_ID\_421'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
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932.
933:
         else if row['PP\_CAN\_ID\_421'] >= 0.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
934:
            return 'normal'
935:
         else if row['PP \ CAN \ ID \ 421'] >= 0.5 and row['P \ CAN \ ID \ 386'] >= 0.5 then:
936:
937:
         else if row['D6'] >= 27.5 and row['D1'] < 0.5 and row['D7'] < 0.5 then:
938:
            return 'normal'
939:
         else if row['P\_CAN\_ID\_000'] >= 0.5 then:
940:
            return 'normal'
941:
         else if row['D1'] < 0.5 and row['P\_CAN\_ID\_50A'] >= 0.5 then:
942:
            return 'normal'
943:
         else if row['D7'] < 0.5 and row['D6'] >= 27.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
944:
945:
         else if row['D7'] < 0.5 and row['D6'] >= 27.5 and row['D4'] < 0.5 then:
946:
            return 'normal'
947:
         else if row['P\_CAN\_ID\_421'] >= 0.5 and row['D3'] < 32.5 and row['D3'] >= 31.5 then:
948:
            return 'normal
949:
         else if row['D0'] < 0.5 and row['PP\_CAN\_ID\_421'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
950:
            return 'normal'
951:
         else if row['D7'] < 0.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
952:
            return 'normal'
953:
         else if row['D0'] < 0.5 and row['PP\_CAN\_ID\_421'] >= 0.5 and row['P\_CAN\_ID\_389'] < 0.5 then:
954:
            return 'normal
955:
         else if row['D4'] < 0.5 and row['D3'] < 32.5 and row['D3'] >= 31.5 then:
956:
            return 'normal
957:
         else
958:
            return 'attack'
959: else if row['Arbitration ID'] == '38D' then:
960:
         if row['D6'] >= 253.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
961:
            return 'normal'
962:
         else if row['D6'] >= 253.5 and row['PP\ CAN\ ID\ 367'] >= 0.5 then:
963:
            return 'normal'
964:
         else if row['D6'] >= 253.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
965:
            return 'normal'
         else if row['D6'] >= 253.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
966:
967:
            return 'normal'
968:
         else if row['D6'] >= 253.5 and row['P\_CAN\_ID\_153'] >= 0.5 then:
969:
            return 'normal'
970:
         else if row['D6'] >= 253.5 and row['PP\_CAN\_ID\_470'] >= 0.5 then:
971:
            return 'normal'
972:
         else if row['D6'] >= 253.5 and row['D4'] >= 127.5 and row['D5'] >= 126.5 then:
973:
            return 'normal'
974:
         else if row['P\_CAN\_ID\_000'] >= 0.5 then:
975:
            return 'normal'
976:
         else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
977:
            return 'normal'
978:
         else if row['D6'] >= 253.5 and row['D4'] >= 127.5 then:
979:
            return 'normal'
980:
         else
981:
            return 'attack'
982: else if row['Arbitration\_ID'] == '391' then:
983:
         if row['D3'] < 0.5 and row['D7'] >= 76.5 and row['P\_CAN\_ID\_38D'] >= 0.5 then:
984.
            return 'normal'
985:
         else if row['D1'] < 0.5 and row['D7'] >= 76.5 and row['D5'] < 0.5 then:
986:
            return 'normal'
987.
         else if row['D3'] < 0.5 and row['D1'] < 0.5 then:
988
            return 'normal'
         else if row['D3'] < 0.5 and row['P\_CAN\_ID\_386'] >= 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
989.
990.
            return 'normal'
991:
         else if row['D1'] < 0.5 and row['D7'] >= 76.5 then:
992:
            return 'normal'
993:
         else if row['D1'] < 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
994:
            return 'normal'
995:
         else if row['D0'] < 0.5 and row['D4'] < 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
996.
            return 'normal'
997:
         else if row['D1'] < 0.5 and row['D3'] < 0.5 then:
            return 'normal'
998.
999:
         else
1000:
              return 'attack'
1001: else if row['Arbitration\_ID'] == '394' then:
1002:
          if row['D7'] >= 247.5 and row['P\_CAN\_ID\_492'] >= 0.5 then:
1003:
             return\ 'normal'
1004:
          else if row['D4'] >= 252.5 then:
1005:
              return 'normal'
1006:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1007:
              return 'normal'
1008:
          else if row['D7'] >= 247.5 and row['D4'] >= 252.5 then:
1009:
1010:
          else if row['D7'] >= 247.5 and row['P\_CAN\_ID\_492'] >= 0.5 then:
1011:
              return 'normal'
1012:
          else if row['P\_CAN\_ID\_387'] >= 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
1013:
1014:
          else if row['D7'] >= 247.5 and row['D4'] >= 252.5 and row['D5'] >= 130.5 then:
1015:
              return 'normal
1016:
          else if row['D7'] >= 247.5 and row['D4'] >= 252.5 and row['D3'] < 0.5 then:
```

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1017:
1018:
         else if row['D1'] >= 31.5 and row['D2'] < 8.5 and row['D2'] >= 7.5 then:
1019:
             return 'normal'
1020:
         else if row['D7'] >= 247.5 and row['P CAN ID 387'] >= 0.5 then:
1021:
             return 'normal'
1022:
          else if row['D7'] >= 247.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
1023:
1024:
         else if row['D7'] >= 247.5 and row['PP\_CAN\_ID\_381'] >= 0.5 then:
1025:
1026:
          else if row['D7'] >= 247.5 and row['P\_CAN\_ID\_38D'] >= 0.5 then:
1027:
             return 'normal'
1028:
         else if row['D7'] >= 247.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
1029:
             return 'normal'
1030:
          else if row['D7'] >= 247.5 and row['P CAN ID 2B0'] >= 0.5 then:
1031:
             return 'normal
1032:
         else if row['P\_CAN\_ID\_387'] >= 0.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
1033:
             return 'normal
1034:
          else if row['P\_CAN\_ID\_387'] >= 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
1035:
             return 'normal
1036:
         else if row['PP\_CAN\_ID\_387'] >= 0.5 and row['P\_CAN\_ID\_391'] >= 0.5 then:
1037:
             return 'normal
1038:
          else if row['P\_CAN\_ID\_329'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1039:
             return 'normal
1040:
         else if row['P\_CAN\_ID\_4F1'] >= 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
1041:
             return 'normal
1042:
          else if row['D7'] >= 151.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
1043:
             return 'normal'
1044:
         else if row['D7'] >= 151.5 and row['D3'] < 0.5 and row['PP\ CAN\ ID\ 387'] >= 0.5 then:
1045:
             return 'normal'
1046:
          else if row['D7'] >= 151.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
1047:
             return 'normal'
1048:
         else if row['D7'] >= 151.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
1049:
             return 'normal
1050:
          else if row['D7'] >= 151.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1051:
             return 'normal'
1052:
         else if row['D7'] >= 151.5 and row['D6'] >= 16.5 and row['P CAN ID 387'] >= 0.5 then:
1053:
             return 'normal'
1054:
          else if row['D7'] >= 151.5 and row['D6'] >= 16.5 and row['PP\_CAN\_ID\_381'] >= 0.5 then:
1055:
             return 'normal'
         else if row['D7'] >= 151.5 and row['D6'] >= 15.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
1056:
1057:
             return 'normal'
1058:
          else if row['D7'] >= 151.5 and row['D4'] >= 6.5 and row['P\_CAN\_ID\_140'] >= 0.5 then:
1059:
             return 'normal'
1060:
          else if row['D7'] >= 151.5 and row['P\_CAN\_ID\_340'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
1061:
             return 'normal'
1062:
          else if row['D3'] < 0.5 and row['D6'] >= 15.5 and row['P\_CAN\_ID\_38D'] >= 0.5 then:
1063:
             return 'normal'
1064
          else if row['D3'] < 0.5 and row['D4'] >= 6.5 and row['D7'] >= 247.5 then:
1065:
             return 'normal'
1066:
          else if row['D6'] >= 16.5 and row['D0'] < 0.5 and row['D7'] >= 247.5 then:
1067:
             return 'normal'
1068:
         else if row['D6'] >= 16.5 and row['D1'] >= 63.5 and row['D2'] < 0.5 then:
1069:
             return 'normal'
1070:
         else if row['D6'] >= 16.5 and row['D2'] < 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
1071
             return 'normal'
1072:
         else if row['D6'] >= 15.5 and row['D1'] >= 63.5 and row['D2'] < 0.5 then:
1073:
             return 'normal'
1074
          else if row['D7'] >= 151.5 and row['D3'] < 0.5 and row['D6'] >= 16.5 then:
1075:
             return 'normal'
1076
          else if row['D3'] < 0.5 and row['D2'] < 8.5 and row['D2'] >= 7.5 then:
1077
             return 'normal'
1078:
         else
1079
             return 'attack'
1080: else if row['Arbitration\_ID'] == '410' then:
         if row[TimePeriod^T] >= 0.1017924547195434 and row['D0'] >= 94.5 and row['P\_CAN\_ID\_436'] >= 0.5 then:
1081:
1082:
             return 'normal'
1083:
          else if row['TimePeriod'] >= 0.1017924547195434 and row['D0'] >= 94.5 and row['D0'] < 96.5 then:
1084:
1085:
         else if row['D0'] >= 94.5 and row['PP\_CAN\_ID\_368'] >= 0.5 and row['D0'] < 96.5 then:
             return 'normal'
1086:
1087:
          else if row['D1'] >= 17.5 and row['D1'] < 18.5 then:
1088:
             return 'normal'
1089:
         else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1090:
1091:
          else if row['TimePeriod'] >= 0.10326194763183591 and row['P\_CAN\_ID\_436'] >= 0.5 then:
1092:
1093:
          else if row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_38D'] >= 0.5 then:
1094:
1095:
          else if row['TimePeriod'] >= 0.10326194763183591 and row['D0'] >= 95.5 and row['D0'] < 96.5 then:
1096:
1097:
          else if row['D0'] >= 95.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_436'] >= 0.5 then:
1098:
1099:
          else if row['D2'] >= 63.5 and row['D7'] < 0.5 and row['D2'] < 64.5 then:
1100:
1101:
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1102:
             return 'attack'
1103: else if row['Arbitration\_ID'] == '412' then:
1104:
         if row['TimePeriod'] >= 0.10304653644561759 and row['D0'] >= 127.5 and row['D1'] < 0.5 then:
1105:
1106:
         else if row['D0'] >= 127.5 and row['D1'] < 0.5 and row['D2'] < 0.5 then:
1107:
             return 'normal'
1108:
          else if row['TimePeriod'] >= 0.10579693317413325 and row['P CAN ID 394'] >= 0.5 then:
1109:
1110:
         else if row['TimePeriod'] >= 0.10579693317413325 and row['PP\ CAN\ ID\ 387'] >= 0.5 then:
1111:
             return 'normal'
1112:
          else if row['TimePeriod'] >= 0.10579693317413325 and row['P\_CAN\_ID\_387'] >= 0.5 then:
1113:
1114:
         else if row['TimePeriod'] >= 0.10579693317413325 and row['PP\_CAN\_ID\_394'] >= 0.5 then:
1115:
             return 'normal'
1116:
         else if row['TimePeriod'] >= 0.10579693317413325 and row['D0'] >= 127.5 and row['TimeInterval'] >= 0.00024688243865964997 then:
1117:
1118:
         else if row['D1'] < 0.5 and row['D4'] >= 15.5 and row['D4'] < 16.5 then:
1119:
             return 'normal'
1120:
1121:
             return 'attack'
1122: else if row['Arbitration ID'] == '420' then:
1123:
         if row['D4'] >= 251.5 and row['D3'] >= 199.5 and row['P\_CAN\_ID\_38D'] >= 0.5 then:
1124:
             return 'normal'
1125:
         else if row['D4'] >= 251.5 and row['D3'] >= 199.5 and row['D2'] < 0.5 then:
1126:
             return 'normal'
1127:
          else if row['D4'] >= 251.5 and row['D3'] >= 199.5 and row['PP\ CAN\ ID\ 38D'] >= 0.5 then:
1128:
             return 'normal
1129:
         else if row['D4'] >= 251.5 and row['D3'] >= 199.5 and row['D3'] < 200.5 then:
1130:
             return 'normal'
1131:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1132:
             return 'normal'
1133:
         else if row['D4'] >= 251.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1134:
             return 'normal'
1135:
          else if row['D4'] >= 251.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
1136:
             return 'normal'
1137:
          else if row['D4'] >= 251.5 and row['P\_CAN\_ID\_4A2'] >= 0.5 then:
1138:
             return 'normal'
1139:
          else if row['D4'] >= 251.5 and row['PP\_CAN\_ID\_492'] >= 0.5 then:
1140:
             return 'normal'
1141:
          else if row['D3'] >= 199.5 and row['P CAN ID 483'] >= 0.5 then:
1142:
             return 'normal'
1143:
          else if row['D3'] >= 199.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
1144:
             return 'normal'
1145:
          else if row['D3'] >= 199.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
1146:
             return 'normal'
1147:
          else if row['P\_CAN\_ID\_38D'] >= 0.5 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
1148:
             return 'normal'
1149:
          else if row['D4'] >= 251.5 and row['D3'] >= 199.5 and row['D6'] >= 102.5 then:
1150:
             return 'normal'
1151:
         else if row['D3'] >= 199.5 and row['D6'] >= 102.5 and row['D7'] < 0.5 then:
1152:
             return 'normal'
1153:
         else
1154:
             return 'attack'
1155: else if row['Arbitration\_ID'] == '421' then:
1156:
         if row['D0'] >= 253.5 and row['PP\_CAN\_ID\_483'] >= 0.5 then:
1157:
             return 'normal'
1158:
         else if row['D0'] >= 253.5 and row['PP\_CAN\_ID\_4A2'] >= 0.5 then:
1159:
             return 'normal'
1160:
          else if row['D3'] >= 254.5 and row['D2'] < 0.5 then:
1161:
             return 'normal'
1162:
         else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1163:
             return 'normal'
1164:
          else if row['D0'] >= 253.5 and row['D4'] >= 226.5 then:
1165:
             return 'normal'
1166:
         else
1167:
             return 'attack'
1168: else if row['Arbitration_ID'] == '42D' then:
1169:
         if row['D7'] >= 249.5 and row['P\_CAN\_ID\_394'] >= 0.5 then:
1170:
             return 'normal'
1171:
         else if row['D7'] >= 249.5 and row['TimePeriod'] >= 0.05280148983001705 and row['D5'] >= 207.5 then:
1172:
1173:
         else if row['D7'] >= 249.5 and row['D5'] >= 207.5 and row['D1'] < 0.5 then:
1174:
             return 'normal'
1175:
         else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1176:
             return 'normal'
1177:
         else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1178:
             return inormal'
1179:
         else if row['D7'] >= 249.5 and row['D1'] < 0.5 then:
1180:
             return 'normal'
1181:
1182:
             return 'attack'
1183: else if row['Arbitration_ID'] == '436' then:
1184:
         if row['TimeInterval'] < 0.00019347667694085 and row['P\_CAN\_ID\_410'] >= 0.5 then:
1185:
             return 'normal'
1186:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
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1187:
 1188:
                      else if row['DLC'] < 4.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
 1189:
                             return 'normal'
 1190:
                      else if row['DLC'] < 4.5 and row['P CAN ID 410'] >= 0.5 then:
 1191:
                             return 'normal'
 1192:
                      else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_453'] >= 0.5 then:
 1193:
 1194:
                      else if row['DLC'] < 4.5 and row['PP\_CAN\_ID\_366'] >= 0.5 then:
 1195:
 1196:
                      else if row['D3'] < 4.5 and row['PP\_CAN\_ID\_410'] >= 0.5 then:
 1197:
                             return 'normal'
 1198:
                      else if row['P\_CAN\_ID\_368'] >= 0.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
 1199:
                             return 'normal'
 1200:
                      else if row['DLC'] < 4.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
 1201:
                             return 'normal
 1202:
                      else if row['DLC'] < 4.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_394'] >= 0.5 then:
 1203:
                             return 'normal
 1204:
                      else if row['DLC'] < 4.5 and row['D3'] < 4.5 and row['D3'] >= 3.5 then:
 1205:
                             return 'normal'
 1206:
 1207:
                             return 'attack'
 1208: else if row['Arbitration\_ID'] == '44E' then:
 1209:
                      if row['TimePeriod'] >= 0.10551655292510981 and row['D3'] < 0.5 and row['P CAN ID 391'] >= 0.5 then:
 1210:
                             return 'normal'
 1211:
                      else if row['TimePeriod'] >= 0.10551655292510981 and row['P\_CAN\_ID\_368'] >= 0.5 then:
 1212:
                             return 'normal'
 1213:
                      else if row['TimePeriod'] >= 0.10551655292510981 and row['P\_CAN\_ID\_389'] >= 0.5 then:
 1214:
                             return 'normal'
 1215:
                      else if row['TimePeriod'] >= 0.10551655292510981 and row['D3'] < 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
 1216:
                              return inormal'
 1217:
                      else if row['TimePeriod'] >= 0.10551655292510981 and row['TimeInterval'] >= 0.00024640560150145 and row['P\ CAN\ ID\ 42D'] >= 0.5 then:
 1218:
                             return 'normal'
 1219:
                      else if row['TimePeriod'] >= 0.10551655292510981 and row['D1'] < 0.5 and row['P\_CAN\_ID\_140'] >= 0.5 then:
 1220:
                              return inormal'
 1221:
                      else if row['TimePeriod'] >= 0.10551655292510981 and row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
 1222:
                             return 'normal
 1223:
                      else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_260'] >= 0.5 and row['P\_CAN\_ID\_520'] >= 0.5 then:
 1224:
                             return 'normal
 1225:
                      else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
 1226:
                             return 'normal'
 1227:
                      else if row['P\_CAN\_ID\_000'] >= 0.5 then:
 1228:
                              return 'normal'
 1229:
                      else if row['P\_CAN\_ID\_368'] >= 0.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
 1230:
                             return 'normal'
 1231:
                      else if row['TimePeriod'] >= 0.10418105125427245 and row['TimeInterval'] >= 0.00024616718292235 and row['PP\_CAN\_ID\_421'] >= 0.5 then:
 1232:
                              return 'normal'
 1233:
                      else if row['TimePeriod'] >= 0.10418105125427245 and row['P\_CAN\_ID\_368'] >= 0.5 and row['PP\_CAN\_ID\_367'] < 0.5 then:
 1234:
                             return 'normal'
 1235:
                      \textbf{else if } row['TimePeriod'] >= 0.10418105125427245 \ \ and \ \ row['PP\_CAN\_ID\_368'] >= 0.5 \ \ and \ \ row['P\_CAN\_ID\_391'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PD\_CAN\_ID\_368'] >= 0.5 \ \ \textbf{ond} \ \ \textbf{fow}['PD\_CAN\_ID\_368'] >= 0.5 \ \ \textbf{ond} \ \ \textbf{on}['PD\_CAN\_ID\_368'] >= 0.5 \ \ 
 1236:
                              return 'normal'
 1237:
                      else if row['TimePeriod'] >= 0.10418105125427245 and row['P\_CAN\_ID\_368'] >= 0.5 then:
 1238:
                             return 'normal'
 1239:
                      else if row['TimePeriod'] >= 0.10418105125427245 and row['P\_CAN\_ID\_386'] >= 0.5 then:
 1240:
                              return 'normal'
1241:
1242:
1243:
1244:
                      else if row['TimePeriod'] >= 0.10418105125427245 and row['P\_CAN\_ID\_391'] >= 0.5 then:
                             return 'normal'
                      else if row['TimePeriod'] >= 0.10418105125427245 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
                              return 'normal'
1244:
1245:
1246:
1247:
1248:
1249:
                      else if row['TimePeriod'] >= 0.10418105125427245 and row['D2'] < 0.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
                              return 'normal'
                      \textbf{else if } row['TimePeriod'] >= 0.10418105125427245 \ \ and \ \ row['D0'] < 0.5 \ \ and \ \ row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.5 \ \ \textbf{then:} \\ \textbf{else if } row['PP\_CAN\_ID\_340'] >= 0.
                             return 'normal'
                      else
 1250:
                             return 'attack'
 1251: else if row['Arbitration\_ID'] == '453' then:
1251:
1252:
1253:
1254:
1255:
                      if row['D2'] >= 138.5 and row['DLC'] < 5.5 then:
                             return 'normal'
                      else if row['D5'] < 0.5 and row['D2'] >= 139.5 then:
                             return 'normal'
1256:
1257:
                      else if row['D5'] < 0.5 and row['D1'] >= 120.5 then:
                             return 'normal'
1258:
1259:
                      else if row['P\_CAN\_ID\_000'] >= 0.5 then:
                             return 'normal'
 1260:
                      else if row['TimeInterval'] < 0.0001976490020751 and row['D2'] >= 138.5 then:
 1261:
                             return 'normal'
 1262:
                      else if row['DLC'] < 5.5 and row['D2'] >= 138.5 then:
 1263:
                             return 'normal'
 1264:
                      else
 1265:
 1266: else if row['Arbitration\_ID'] == '470' then:
 1267:
                      if row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_381'] >= 0.5 then:
 1268:
                             return 'normal
 1269:
                      else if row['PP\_CAN\_ID\_412'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
 1270:
 1271:
                      else if row['D4'] >= 79.5 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_391'] >= 0.5 then:
```

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1272:
1273:
          else if row['D6'] >= 83.5 and row['D7'] >= 64.5 and row['PP\_CAN\_ID\_412'] >= 0.5 then:
1274:
             return 'normal'
1275:
          else if row['D6'] >= 83.5 and row['P CAN ID 453'] >= 0.5 and row['PP CAN ID 000'] >= 0.5 then:
1276:
1277:
          else if row['D6'] >= 83.5 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
1278:
1279:
          else if row['D7'] >= 64.5 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
1280:
1281:
          else if row['D1'] >= 64.5 and row['P\_CAN\_ID\_368'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
1282:
             return 'normal'
1283:
          else if row['PP\_CAN\_ID\_436'] >= 0.5 then:
1284:
             return 'normal'
1285:
          else if row['D4'] >= 79.5 and row['P CAN ID 368'] >= 0.5 then:
1286:
             return 'normal'
1287:
          else if row['D4'] >= 79.5 and row['P\_CAN\_ID\_453'] >= 0.5 then:
1288:
             return 'normal'
1289:
          else if row['D4'] >= 79.5 and row['D6'] >= 83.5 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
1290:
             return 'normal'
1291:
          else if row['D4'] >= 79.5 and row['D5'] >= 79.5 and row['D5'] < 84.5 then:
1292:
             return 'normal'
1293:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1294:
             return 'normal'
1295:
          else if row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_391'] >= 0.5 then:
1296:
             return 'normal
1297:
          else if row['PP\_CAN\_ID\_453'] >= 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
1298:
             return 'normal'
1299:
          else if row['D4'] >= 79.5 and row['D3'] < 5.5 and row['D3'] >= 3.5 then:
1300:
             return 'normal'
1301:
          else
1302:
             return 'attack'
1303: else if row['Arbitration\_ID'] == '479' then:
1304:
          if row[TimePeriod^{T}] >= 0.053493976593017495 and row[D0'] >= 73.5 and row[PP\_CAN\_ID\_421'] >= 0.5 then:
1305:
             return 'normal
1306:
          else if row['TimePeriod'] >= 0.053493976593017495 and row['P\_CAN\_ID\_368'] >= 0.5 then:
1307:
             return 'normal
1308:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1309:
             return 'normal'
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1310:
1311:
             return 'normal'
1312:
          else if row['P\_CAN\_ID\_368'] >= 0.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
1313:
             return 'normal'
1314
          else if row['D0'] >= 73.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
1315:
             return 'normal'
          else if row['D0'] >= 73.5 and row['D1'] < 0.5 and row['PP\ CAN\ ID\ 386'] >= 0.5 then:
1316:
1317:
             return 'normal'
1318:
          else if row['D0'] >= 73.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
1319:
             return 'normal'
1320:
          else if row['D0'] >= 73.5 and row['D1'] < 0.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
1321:
             return 'normal'
1322:
          else if row['D0'] >= 73.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_42D'] >= 0.5 then:
1323:
             return 'normal'
1324:
1325:
          else if row['D0'] >= 73.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
             return 'normal'
1326:
1327:
1328:
          else if row['D0'] >= 73.5 and row['D2'] < 0.5 and row['P\_CAN\_ID\_389'] >= 0.5 then:
             return 'normal'
          else if row['D0'] >= 73.5 and row['D5'] < 0.5 and row['PP\_CAN\_ID\_130'] >= 0.5 then:
1329:
             return 'normal'
1330:
          else if row['D0'] >= 73.5 and row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_391'] >= 0.5 then:
1331:
             return 'normal'
1332:
          else if row['D0'] >= 73.5 and row['D1'] < 0.5 then:
1333:
             return 'normal'
1334:
          else
1335:
             return 'attack'
1336: else if row['Arbitration\_ID'] == '47F' then:
1337:
          if row['D2'] >= 254.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
1338:
             return 'normal'
1339:
          else if row['D2'] >= 254.5 and row['D3'] >= 249.5 and row['D7'] >= 64.5 then:
1340:
             return 'normal'
1341:
          else if row['D2'] >= 254.5 and row['D3'] >= 249.5 and row['P\_CAN\_ID\_220'] >= 0.5 then:
1342:
             return 'normal'
1343:
          else if row['D2'] >= 254.5 and row['D3'] >= 249.5 and row['P\_CAN\_ID\_389'] >= 0.5 then:
1344:
             return 'normal'
1345:
          else if row['D2'] >= 254.5 and row['D5'] >= 119.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
1346:
             return 'normal'
1347:
          else if row['D2'] >= 254.5 and row['D5'] >= 119.5 and row['P\_CAN\_ID\_479'] >= 0.5 then:
1348:
             return 'normal'
1349:
          else if row['D2'] >= 254.5 and row['D0'] < 4.5 and row['D1'] >= 49.5 then:
1350:
             return 'normal'
1351:
          else if row['D2'] >= 254.5 and row['D4'] < 0.5 and row['D0'] < 0.5 then:
1352:
             return 'normal'
1353:
          else if row['D0'] < 4.5 and row['D4'] < 0.5 and row['D3'] >= 254.5 then:
1354:
             return 'normal'
1355:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1356:
             return 'normal'
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1357:
                    else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1358:
                           return 'normal'
1359:
                    else if row['D2'] >= 254.5 and row['D7'] >= 70.5 then:
1360:
1361:
                    else if row['D2'] >= 254.5 and row['D7'] >= 69.5 then:
1362:
                           return 'normal'
1363:
                    else if row['D2'] >= 254.5 and row['D7'] >= 68.5 then:
1364:
                           return 'normal'
1365:
                    else if row['D2'] >= 254.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
1366:
                           return 'normal'
1367:
                    else if row['D2'] >= 254.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
1368:
1369:
                    else if row['D2'] >= 254.5 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
1370:
                           return 'normal'
1371:
                    else if row['D2'] >= 254.5 and row['D3'] < 250.5 then:
1372:
                           return 'normal'
1373:
                    else if row['D2'] >= 254.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
1374:
                           return 'normal'
1375:
                    else if row['D2'] >= 254.5 and row['P\_CAN\_ID\_436'] >= 0.5 then:
1376:
                           return 'normal'
1377:
                    else if row['D2'] >= 254.5 and row['PP\_CAN\_ID\_436'] >= 0.5 then:
1378:
                           return 'normal'
1379:
                    else if row['D2'] >= 254.5 and row['D5'] >= 119.5 and row['D4'] < 0.5 then:
1380:
                           return 'normal'
1381:
                    else
1382:
                           return 'attack'
1383: else if row['Arbitration\_ID'] == '483' then:
1384:
                    if row['P \ CAN \ ID \ 38D'] >= 0.5 and row['PP \ CAN \ ID \ 479'] >= 0.5 then:
1385:
                           return 'normal
1386:
                    else if row['TimePeriod'] >= 0.10396754741668701 and row['TimeInterval'] >= 0.00024640560150145 and row['P\_CAN\_ID\_38D'] >= 0.5 then:
1387:
                           return 'normal
1388:
                    else if row['TimePeriod'] >= 0.10396754741668701 and row['TimeInterval'] >= 0.00024640560150145 and row['PP\_CAN\_ID\_38D'] >= 0.5 then:
1389:
                           return 'normal'
1390:
                    else if row['TimePeriod'] >= 0.10396754741668701 and row['D0'] >= 18.5 and row['D0'] < 23.5 then:
1391:
                           return 'normal'
1392:
                    else if row['D1'] < 0.5 and row['D0'] >= 18.5 and row['P CAN ID 38D'] >= 0.5 then:
1393:
                           return 'normal'
                    else if row['D3'] < 0.5 and row['D0'] >= 18.5 and row['PP\_CAN\_ID\_38D'] >= 0.5 then:
1394:
1395:
                           return 'normal
1396:
                    else if row['D1'] < 0.5 and row['D0'] >= 18.5 and row['D0'] < 23.5 then:
1397:
                           return 'normal'
1398:
                    else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1399:
                           return 'normal'
1400:
                    else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1401:
                           return 'normal'
1402:
                    else if row['TimePeriod'] >= 0.10298085212707514 and row['PP\_CAN\_ID\_559'] >= 0.5 then:
1403:
                           return 'normal
1404:
                    else if row['P\_CAN\_ID\_38D'] >= 0.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
1405:
                           return 'normal'
1406:
                    else if row['P\_CAN\_ID\_38D'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1407:
                           return 'normal'
1408:
                    else if row['P\_CAN\_ID\_38D'] >= 0.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
1409:
                           return 'normal'
1410:
                    else if row['P\_CAN\_ID\_340'] >= 0.5 and row['PP\_CAN\_ID\_470'] >= 0.5 then:
1411:
                           return 'normal'
1412:
                    \textbf{else if } row['TimePeriod'] >= 0.10298085212707514 \ and \ row['TimeInterval'] >= 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.00024616718292335 \ and \ row['PP\_CAN\_ID\_47F'] >= 0.5 \ \textbf{then}: 0.000246167182923
1413:
1414:
                           return 'normal'
                    else if row['TimePeriod'] >= 0.10298085212707514 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
1415:
1416:
                           return 'normal'
                    \textbf{else if } row['TimePeriod'] >= 0.10298085212707514 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ and \ row['P\_CAN\_ID\_140'] >= 0.5 \ \textbf{then}:
1417:
                           return 'normal'
1418:
                    \textbf{else if } row['TimePeriod'] >= 0.10298085212707514 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ and \ row['PP\_CAN\_ID\_329'] >= 0.5 \ \textbf{then}:
1419:
                           return 'normal'
1420:
                    else if row['TimePeriod'] >= 0.10298085212707514 and row['D0'] >= 18.5 and row['D0'] < 19.5 then:
1421:
                           return 'normal'
1422:
1423:
                    \textbf{else if } row['TimeInterval'] >= 0.00024616718292235 \ and \ row['D3'] < 0.5 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['D3'] < 0.5 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['D3'] < 0.5 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024616718292235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.000246172929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.000246172929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.000246172929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.000246172929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.000246172929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.000246172929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.000246172929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.000246172929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024617292929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.000246172929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.00024729235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.0002472929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.0002472929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.0002472929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.0002472929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.0002472929235 \ and \ row['P\_CAN\_ID\_38D'] >= 0.5 \ \textbf{then}: \\ 1.0002472
                           return 'normal'
1424:
1425:
                    else if row['TimeInterval'] >= 0.00024616718292235 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_38D'] >= 0.5 then:
                           return 'normal'
1426:
1427:
                    else if row['D1'] < 0.5 and row['D0'] >= 18.5 and row['D0'] < 19.5 then:
                           return 'normal'
1428:
                    else if row['D1'] < 0.5 and row['D0'] >= 18.5 and row['P\_CAN\_ID\_470'] >= 0.5 then:
1429:
                           return 'normal'
1430:
                    else if row['D2'] < 0.5 and row['D0'] >= 18.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
1431:
                           return 'normal'
1432:
                    else if row['TimePeriod'] >= 0.10298085212707514 and row['P\_CAN\_ID\_340'] >= 0.5 then:
1433:
1434:
                    else if row['TimePeriod'] >= 0.10298085212707514 and row['D0'] >= 18.5 and row['D0'] < 23.5 then:
1435:
                           return 'normal'
1436:
1437:
                           return 'attack'
1438: else if row['Arbitration\_ID'] == '484' then:
                    if row['D6'] >= 251.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
1439:
1440:
1441:
                    else if row['D6'] >= 251.5 and row['TimePeriod'] >= 0.05338954925537105 and row['D1'] < 1.5 then:
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1442:
1443:
          else if row['D6'] >= 251.5 and row['D7'] >= 61.5 and row['D2'] >= 251.5 then:
1444:
             return 'normal'
1445:
          else if row['D6'] >= 251.5 and row['D7'] >= 61.5 and row['D5'] < 0.5 then:
1446:
1447:
          else if row['TimePeriod'] >= 0.0551310777664184 and row['D6'] >= 251.5 then:
1448:
1449:
          else if row['D6'] >= 251.5 and row['D2'] >= 73.5 then:
1450:
1451:
          else if row['TimePeriod'] >= 0.0551310777664184 and row['D1'] < 1.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1452:
             return 'normal'
1453:
          else if row['TimePeriod'] >= 0.0551310777664184 and row['D0'] >= 7.5 and row['D5'] >= 111.5 then:
1454:
1455:
          else if row['D6'] >= 251.5 and row['D1'] < 1.5 and row['D0'] >= 7.5 then:
1456:
             return 'normal'
1457:
1458:
             return 'attack'
1459: else if row['Arbitration\_ID'] == '485' then:
1460:
          if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
1461:
             return 'normal'
1462:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['PP\ CAN\ ID\ 421'] >= 0.5 then:
1463:
             return 'normal'
1464:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['P CAN ID 421'] >= 0.5 then:
1465:
             return 'normal'
1466:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_453'] >= 0.5 then:
1467:
             return 'normal'
1468:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
1469:
             return 'normal'
1470:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1471:
             return 'normal'
1472:
          else if row['PP\ CAN\ ID\ 000'] >= 0.5 then:
1473:
             return 'normal'
1474:
          else if row['DLC'] < 4.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1475:
             return 'normal
          else if row['P\_CAN\_ID\_340'] >= 0.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
1476:
1477:
             return 'normal'
1478:
          else if row['P\_CAN\_ID\_340'] >= 0.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
1479:
             return 'normal'
1480:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
1481:
             return 'normal
1482:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_389'] >= 0.5 then:
1483:
             return 'normal'
1484:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_470'] >= 0.5 then:
1485:
             return 'normal
1486:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
1487:
             return 'normal
1488:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_492'] >= 0.5 then:
1489:
             return 'normal
1490:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
1491:
             return 'normal'
1492:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
1493:
             return 'normal'
1494:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
1495:
             return 'normal'
1496:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
1497
             return 'normal
1498:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_391'] >= 0.5 then:
1499:
             return 'normal'
1500:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
1501:
             return 'normal'
1502:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
1503:
             return 'normal'
1504:
1505:
          else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
             return 'normal'
1506:
          else if row['DLC'] < 4.5 and row['D0'] < 3.5 and row['D0'] >= 1.5 then:
1507:
             return 'normal'
1508:
          else
1509:
             return 'attack'
1510: else if row['Arbitration\_ID'] == '48A' then:
1511:
          if row['D6'] >= 31.5 and row['P\_CAN\_ID\_485'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
1512:
1513:
          else if row['D3'] >= 63.5 and row['D3'] < 65.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1514:
             return 'normal'
1515:
          else if row['D3'] >= 63.5 and row['D3'] < 65.5 and row['PP\_CAN\_ID\_436'] >= 0.5 then:
1516:
             return 'normal'
1517:
          else if row['D3'] >= 63.5 and row['D3'] < 65.5 and row['P\_CAN\_ID\_394'] >= 0.5 then:
1518:
             return 'normal'
1519:
          else if row['D4'] >= 1.5 and row['D4'] < 3.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
1520:
1521:
          else if row['D4'] >= 1.5 and row['D4'] < 3.5 and row['PP\_CAN\_ID\_541'] >= 0.5 then:
1522:
             return 'normal'
1523:
          else if row['D3'] >= 63.5 and row['D3'] < 65.5 then:
1524:
             return 'normal'
1525:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1526:
             return 'normal'
```

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1527:
          else if row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
1528:
             return 'normal
1529:
          else if row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
1530:
1531:
          else if row['P\_CAN\_ID\_329'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1532:
             return 'normal'
1533:
          else if row['D1'] < 0.5 and row['D6'] >= 31.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1534:
1535:
          else if row['D1'] < 0.5 and row['D6'] >= 31.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
1536:
             return 'normal'
1537:
          else if row['D1'] < 0.5 and row['D3'] >= 63.5 and row['PP\_CAN\_ID\_394'] >= 0.5 then:
1538:
             return 'normal
1539:
          else if row['D1'] < 0.5 and row['D2'] >= 32.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
1540:
1541:
          else if row['D1'] < 0.5 and row['D2'] >= 32.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
1542:
             return 'normal'
1543:
          else if row['D1'] < 0.5 and row['D7'] >= 72.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1544:
             return 'normal'
1545:
          else if row['D1'] < 0.5 and row['D4'] < 3.5 and row['D4'] >= 2.5 then:
1546:
             return 'normal'
1547:
          else if row['D1'] < 0.5 and row['D4'] < 3.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
1548:
             return 'normal'
1549:
          else if row['D6'] >= 31.5 and row['D3'] >= 63.5 and row['P CAN ID 386'] >= 0.5 then:
1550:
             return 'normal'
1551:
          else if row['D6'] >= 31.5 and row['D3'] >= 63.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1552:
             return 'normal'
1553:
          else if row['D6'] >= 31.5 and row['D6'] < 32.5 and row['P\_CAN\_ID\_470'] >= 0.5 then:
1554:
             return 'normal'
1555:
          else if row['D6'] >= 31.5 and row['D6'] < 32.5 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
1556:
             return 'normal'
1557:
          else if row['D6'] >= 31.5 and row['D6'] < 32.5 and row['PP\ CAN\ ID\ 140'] >= 0.5 then:
1558:
             return 'normal'
1559:
          else if row['D6'] >= 31.5 and row['D6'] < 32.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
1560:
             return 'normal'
1561:
          else if row['D3'] >= 63.5 and row['D3'] < 65.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
1562:
             return 'normal'
1563:
          else if row['D3'] >= 63.5 and row['D3'] < 65.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
1564:
             return 'normal'
1565:
          else if row['D3'] >= 63.5 and row['D3'] < 65.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
1566:
             return 'normal'
1567:
          else if row['D3'] >= 63.5 and row['D3'] < 65.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
1568:
             return 'normal'
1569:
          else if row['D3'] >= 63.5 and row['D3'] < 64.5 and row['PP\_CAN\_ID\_470'] >= 0.5 then:
1570:
             return 'normal'
1571:
          else if row['D3'] >= 63.5 and row['D3'] < 64.5 and row['P\_CAN\_ID\_140'] >= 0.5 then:
1572:
             return 'normal'
1573:
          else if row['D0'] < 0.5 and row['D2'] >= 32.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
1574:
             return 'normal
1575:
          else if row['D0'] < 0.5 and row['D3'] < 65.5 and row['D3'] >= 64.5 then:
1576:
1577:
             return 'normal'
          else if row['D6'] >= 31.5 and row['D6'] < 32.5 then:
1578:
             return 'normal'
1579:
          else if row['D1'] < 0.5 and row['D3'] >= 63.5 and row['D7'] >= 72.5 then:
1580:
             return 'normal'
1581:
          else if row['D3'] >= 63.5 and row['D0'] < 0.5 and row['D3'] < 65.5 then:
1582:
             return 'normal'
1583:
          else
1584.
             return 'attack'
1585: else if row['Arbitration\_ID'] == '48C' then:
1586:
          if row['TimePeriod'] >= 0.10290300846099851 and row['D0'] >= 75.5 and row['P\_CAN\_ID\_58B'] >= 0.5 then:
1587:
             return 'normal'
1588:
          else if row['TimePeriod'] >= 0.10290300846099851 and row['D0'] >= 75.5 and row['PP\_CAN\_ID\_58B'] >= 0.5 then:
1589:
             return 'normal'
1590:
          else if row['TimePeriod'] >= 0.10290300846099851 and row['D0'] >= 75.5 and row['PP\_CAN\_ID\_394'] >= 0.5 then:
1591:
             return 'normal'
1592:
          else if row['TimePeriod'] >= 0.10290300846099851 and row['D0'] >= 75.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
1593:
             return 'normal'
1594:
          else if row['TimePeriod'] >= 0.10290300846099851 and row['D2'] < 3.5 and row['D2'] >= 1.5 then:
1595:
             return 'normal'
1596:
1597:
          else if row['D0'] >= 75.5 and row['D2'] < 3.5 and row['D2'] >= 1.5 then:
             return 'normal'
1598:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1599:
             return 'normal'
1600:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1601:
             return 'normal'
1602:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['PP\_CAN\_ID\_4C9'] >= 0.5 then:
1603:
1604:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
1605:
             return 'normal'
1606:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
1607:
1608:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['P\_CAN\_ID\_164'] >= 0.5 then:
1609:
             return 'normal'
1610:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
1611:
             return 'normal'
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1612:
          else if row['P\_CAN\_ID\_58B'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1613:
             return 'normal'
1614:
          else if row['P\_CAN\_ID\_58B'] >= 0.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
1615:
1616:
          else if row['D0'] >= 251.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 then:
1617:
             return 'normal'
1618:
          else if row['D0'] >= 251.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1619:
             return 'normal'
1620:
          else if row['PP\ CAN\ ID\ 58B'] >= 0.5 and row['P\ CAN\ ID\ 386'] >= 0.5 then:
1621:
1622:
          else if row['P\_CAN\_ID\_386'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
1623:
             return 'normal
1624:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['D0'] >= 75.5 and row['P\_CAN\_ID\_58B'] >= 0.5 then:
1625:
1626:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['D0'] >= 75.5 and row['PP\_CAN\_ID\_58B'] >= 0.5 then:
1627:
             return 'normal'
1628:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['D0'] >= 75.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1629:
             return 'normal'
1630:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['D0'] >= 75.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1631:
             return 'normal'
1632:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['D0'] >= 75.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
1633:
             return 'normal'
1634:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['D3'] < 0.5 and row['D0'] >= 251.5 then:
1635:
             return inormal
1636:
          else if row['TimePeriod'] >= 0.1025964021682739 and row['D2'] < 3.5 and row['D2'] >= 1.5 then:
1637:
             return 'normal'
1638:
          else if row['D0'] >= 75.5 and row['D1'] >= 31.5 and row['D1'] < 32.5 then:
1639:
             return 'normal'
1640:
          else
1641:
             return 'attack'
1642: else if row['Arbitration ID'] == '490' then:
1643:
          if row[P_{CAN_ID_164'}] >= 0.5 and row[P_{CAN_ID_50E'}] >= 0.5 then:
1644:
             return 'normal'
1645:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 then:
1646:
             return 'normal'
1647:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['P CAN ID 58B'] >= 0.5 then:
1648:
             return 'normal'
1649:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
1650:
             return 'normal'
1651:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['P\_CAN\_ID\_48A'] >= 0.5 then:
1652:
             return 'normal'
1653:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['P\_CAN\_ID\_568'] >= 0.5 then:
1654:
             return 'normal'
1655:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['P\_CAN\_ID\_394'] >= 0.5 then:
1656:
             return 'normal'
1657:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
1658:
             return 'normal'
1659:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
1660:
             return 'normal'
1661:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
1662:
             return 'normal'
1663:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
1664:
             return 'normal'
1665:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['PP\_CAN\_ID\_394'] >= 0.5 then:
1666.
             return 'normal'
1667:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
1668:
             return 'normal'
1669:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
1670:
             return 'normal'
1671:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
             return 'normal'
1672:
1673:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
1674:
             return 'normal'
1675:
          else if row['D6'] >= 59.5 and row['D6'] < 60.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
1676:
             return 'normal'
1677:
          else if row['P\_CAN\_ID\_329'] >= 0.5 and row['D6'] < 60.5 and row['D6'] >= 59.5 then:
1678:
             return 'normal'
1679:
          else if row['D0'] < 0.5 and row['D3'] < 33.5 and row['D3'] >= 32.5 then:
1680:
             return 'normal'
1681:
          else
1682:
             return 'attack'
1683: else if row['Arbitration\_ID'] == '492' then:
1684:
          if row['D1'] >= 253.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
1685:
             return 'normal'
1686:
          else if row['D1'] >= 253.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
1687:
1688:
          else if row['D1'] >= 253.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
1689:
             return 'normal'
1690:
          else if row['D1'] >= 253.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1691:
1692:
          else if row['D1'] >= 253.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
1693:
             return 'normal'
1694:
          else if row['D1'] >= 253.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
1695:
1696:
          else if row['D1'] >= 253.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
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1697:
1698:
          else if row['D1'] >= 253.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1699:
             return 'normal'
1700:
          else if row['D1'] >= 253.5 and row['P CAN ID 386'] >= 0.5 then:
1701:
1702:
          else if row['D1'] >= 253.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
1703:
1704:
          else if row['D1'] >= 253.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
1705:
1706:
          else if row['D1'] >= 253.5 and row['PP\_CAN\_ID\_391'] >= 0.5 then:
1707:
             return 'normal'
1708:
          else if row['D1'] >= 253.5 and row['D0'] >= 63.5 and row['D5'] < 0.5 then:
1709:
             return 'normal'
1710:
1711:
             return 'attack'
1712: else if row['Arbitration\_ID'] == '495' then:
1713:
          if row['TimePeriod'] >= 0.0714354515075683 and row['D6'] >= 134.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
1714:
             return 'normal'
1715:
          else if row['TimePeriod'] >= 0.0714354515075683 and row['D6'] >= 134.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1716:
             return 'normal'
1717:
          else if row['TimePeriod'] >= 0.0714354515075683 and row['D6'] >= 134.5 and row['P_CAN_ID_387'] >= 0.5 then:
1718:
             return 'normal'
1719:
          else if row['TimePeriod'] >= 0.0714354515075683 and row['D2'] >= 96.5 and row['D2'] < 97.5 then:
1720:
             return 'normal'
1721:
          else if row['D6'] >= 134.5 and row['D1'] < 0.5 and row['D6'] < 135.5 then:
1722:
             return 'normal'
1723:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1724:
             return 'normal'
1725:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1726:
             return 'normal'
1727:
          else if row['PP \ CAN \ ID \ 470'] >= 0.5 and row['P \ CAN \ ID \ 453'] >= 0.5 then:
1728:
             return 'normal'
1729:
          else if row['D6'] >= 134.5 and row['D2'] >= 96.5 and row['D2'] < 97.5 then:
1730:
             return 'normal'
1731:
          else
1732:
             return 'attack'
1733: else if row['Arbitration ID'] == '49F' then:
          if row['D1'] >= 254.5 and row['TimePeriod'] >= 0.10435903072357175 then:
1734:
1735:
             return 'normal'
1736:
          else if row['PP \ CAN \ ID \ 000'] >= 0.5 then:
1737:
              return 'normal'
1738:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1739:
             return 'normal'
1740:
          else if row['D1'] >= 254.5 and row['TimePeriod'] >= 0.1054160594940185 then:
1741:
              return 'normal'
1742:
          else if row['D1'] >= 254.5 and row['D3'] < 0.5 then:
1743:
             return 'normal'
1744:
1745:
              return 'attack'
1746: else if row['Arbitration\_ID'] == '4A2' then:
1747:
1748:
          if row['DLC'] < 3.0 and row['D0'] >= 8.5 then:
             return 'normal'
1749:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1750:
             return 'normal'
1751:
          else
1752:
             return 'attack'
1753: else if row['Arbitration\_ID'] == '4A7' then:
1754:
          if row['DLC'] < 3.0 and row['D0'] < 1.5 then:
1755:
             return 'normal'
1756:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1757:
             return 'normal'
1758:
          else
1759:
             return 'attack'
1760: else if row['Arbitration\_ID'] == '4A9' then:
1761:
          if row['TimePeriod'] >= 0.10244798660278315 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
1762:
1763:
          \textbf{else if } row['TimeInterval'] >= 0.00024640560150145 \ and \ row['PP\_CAN\_ID\_470'] >= 0.5 \ and \ row['P\_CAN\_ID\_329'] >= 0.5 \ \textbf{then}:
1764:
1765:
          else if row['TimePeriod'] >= 0.10244798660278315 and row['PP\_CAN\_ID\_470'] >= 0.5 then:
1766:
1767:
          else if row['TimePeriod'] >= 0.10244798660278315 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
1768:
1769:
          \textbf{else if } row['TimePeriod'] >= 0.10244798660278315 \ \ and \ \ row['D3'] < 0.5 \ \ and \ \ row['P\_CAN\_ID\_470'] >= 0.5 \ \textbf{then}:
1770:
             return 'normal'
1771:
          else if row['TimePeriod'] >= 0.10244798660278315 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
1772:
1773:
          else if row['TimePeriod'] >= 0.10244798660278315 and row['D1'] < 0.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
1774:
             return 'normal
1775:
          else if row['TimePeriod'] >= 0.10244798660278315 and row['D0'] < 0.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1776:
             return 'normal'
1777:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1778:
             return 'normal'
1779:
          else if row['TimePeriod'] >= 0.10319542884826655 and row['P\_CAN\_ID\_492'] >= 0.5 then:
1780:
1781:
          else if row['TimePeriod'] >= 0.10319542884826655 and row['PP\_CAN\_ID\_251'] >= 0.5 then:
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1782:
1783:
         else if row['PP\_CAN\_ID\_453'] >= 0.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1784:
             return 'normal'
1785:
         else if row['P \ CAN \ ID \ 453'] >= 0.5 and row['PP \ CAN \ ID \ 220'] >= 0.5 then:
1786:
1787:
          else if row['TimePeriod'] >= 0.10319542884826655 and row['TimeInterval'] >= 0.00024616718292235 and row['P\_CAN\_ID\_453'] >= 0.5 then:
1788:
1789:
          1790:
1791:
          else if row['TimePeriod'] >= 0.10319542884826655 and row['D1'] < 0.5 and row['P\_CAN\_ID\_490'] >= 0.5 then:
1792:
1793:
         else if row['TimePeriod'] >= 0.10319542884826655 and row['PP\_CAN\_ID\_470'] >= 0.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1794:
1795:
          else if row['TimePeriod'] >= 0.10319542884826655 and row['PP\_CAN\_ID\_470'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
1796:
             return 'normal'
1797:
         else if row['D3'] < 0.5 and row['D7'] < 0.5 and row['P\_CAN\_ID\_453'] >= 0.5 then:
1798:
             return 'normal
1799:
          else if row['TimePeriod'] >= 0.10319542884826655 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
1800:
             return 'normal'
1801:
         else if row['TimePeriod'] >= 0.10319542884826655 and row['P\_CAN\_ID\_495'] >= 0.5 then:
1802:
             return 'normal'
1803:
          else if row['TimePeriod'] >= 0.10319542884826655 and row['D2'] < 0.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
1804:
             return 'normal'
1805:
1806:
             return 'attack'
1807: else if row['Arbitration ID'] == '4C9' then:
1808:
         if row[TimePeriod^T] >= 0.1026134490966796 and row['D3'] < 0.5 and row['P\_CAN\_ID\_48A'] >= 0.5 then:
1809:
             return 'normal'
1810:
         else if row['TimePeriod'] >= 0.1026134490966796 and row['TimeInterval'] >= 0.00024640560150145 and row['P \ CAN \ ID \ 389'] >= 0.5 then:
1811:
             return 'normal'
1812:
          else if row['TimePeriod'] >= 0.1026134490966796 and row['D0'] < 0.5 and row['P CAN ID 391'] >= 0.5 then:
1813:
             return 'normal'
1814:
         else if row['TimePeriod'] >= 0.1026134490966796 and row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
1815:
             return inormal'
1816:
          else if row['TimePeriod'] >= 0.1026134490966796 and row['P\_CAN\_ID\_368'] >= 0.5 then:
1817:
             return 'normal
1818:
         else if row['TimePeriod'] >= 0.1026134490966796 and row['D3'] < 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
1819:
             return 'normal'
1820:
          else if row['TimePeriod'] >= 0.1026134490966796 and row['D1'] < 0.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
1821:
             return 'normal
1822:
         else if row['TimePeriod'] >= 0.1026134490966796 and row['D0'] < 0.5 and row['PP\_CAN\_ID\_421'] >= 0.5 then:
1823:
             return 'normal'
1824:
          else if row['TimePeriod'] >= 0.1026134490966796 and row['D0'] < 0.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
1825:
             return 'normal
1826:
         else if row['P\_CAN\_ID\_48A'] >= 0.5 and row['PP\_CAN\_ID\_421'] >= 0.5 then:
1827:
             return 'normal'
1828:
          else if row['TimePeriod'] >= 0.1035891771316528 and row['D0'] < 0.5 and row['P\_CAN\_ID\_391'] >= 0.5 then:
1829:
             return 'normal'
1830:
         \textbf{else if } row['TimePeriod'] >= 0.1035891771316528 \ and \ row['D0'] < 0.5 \ and \ row['PP\_CAN\_ID\_260'] >= 0.5 \ \textbf{then}:
1831:
             return 'normal'
1832:
          else if row['TimePeriod'] >= 0.1035891771316528 and row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_48A'] >= 0.5 then:
1833:
             return 'normal'
1834:
         else if row['TimePeriod'] >= 0.1035891771316528 and row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
1835:
             return 'normal'
1836:
          else if row['TimePeriod'] >= 0.1035891771316528 and row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
1837:
             return 'normal'
1838:
1839:
         else if row['TimePeriod'] >= 0.1035891771316528 and row['P\_CAN\_ID\_368'] >= 0.5 then:
             return 'normal'
1840:
         else if row['TimePeriod'] >= 0.1035891771316528 and row['PP\_CAN\_ID\_421'] >= 0.5 then:
1841:
             return 'normal'
1842:
1843:
         else if row['TimePeriod'] >= 0.1035891771316528 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
             return 'normal'
1844:
          else if row['TimePeriod'] >= 0.1035891771316528 and row['P\_CAN\_ID\_329'] >= 0.5 then:
1845:
             return 'normal'
1846:
1847:
         else if row['TimePeriod'] >= 0.1035891771316528 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
             return 'normal'
1848:
         else if row['TimePeriod'] >= 0.1035891771316528 and row['D3'] < 0.5 and row['P\_CAN\_ID\_48A'] >= 0.5 then:
1849:
             return 'normal'
1850:
         else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1851:
             return 'normal'
1852:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1853:
             return 'normal'
1854:
         else if row['TimePeriod'] >= 0.10129249095916745 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
1855:
1856:
          else if row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
1857:
1858:
         else if row['TimePeriod'] >= 0.10129249095916745 and row['TimeInterval'] >= 0.00024616718292235 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
1859:
1860:
          else if row['TimePeriod'] >= 0.10129249095916745 and row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
1861:
1862:
          else if row['TimePeriod'] >= 0.10129249095916745 and row['P\_CAN\_ID\_485'] >= 0.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
1863:
1864:
          else if row['D0'] < 0.5 and row['D4'] < 0.5 and row['P\_CAN\_ID\_48A'] >= 0.5 then:
1865:
1866:
          else if row['TimePeriod'] >= 0.10129249095916745 and row['P\_CAN\_ID\_368'] >= 0.5 then:
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1867:
1868:
               else if row['TimePeriod'] >= 0.10129249095916745 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1869:
                    return 'normal'
1870:
               else if row['TimePeriod'] >= 0.10129249095916745 and row['P\ CAN\ ID\ 495'] >= 0.5 then:
1871:
1872:
               else if row['TimePeriod'] >= 0.10129249095916745 and row['P\_CAN\_ID\_391'] >= 0.5 then:
1873:
1874:
               \textbf{else if } row['TimePeriod'] >= 0.10129249095916745 \ and \ row['TimeInterval'] >= 0.00024616718292235 \ and \ row['PP\_CAN\_ID\_48A'] >= 0.5 \ \textbf{then}: \ and \ row['
1875:
1876:
               else if row['TimePeriod'] >= 0.10129249095916745 and row['D3'] < 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
1877:
1878:
               else if row['TimePeriod'] >= 0.10129249095916745 and row['D4'] < 0.5 and row['PP\_CAN\_ID\_485'] >= 0.5 then:
1879:
                    return 'normal'
1880:
1881:
                    return 'attack'
1882: else if row['Arbitration_ID'] == '4CB' then:
1883:
               if row['PP\_CAN\_ID\_260'] >= 0.5 and row['P\_CAN\_ID\_53B'] >= 0.5 then:
1884:
                    return 'normal'
1885:
               else if row['TimePeriod'] >= 0.0233107805252075 and row['TimeInterval'] >= 0.00024831295013425 then:
1886:
                    return 'normal'
1887:
               else if row['TimePeriod'] >= 0.0233107805252075 and row['D3'] < 0.5 and row['P CAN ID 47F'] >= 0.5 then:
1888:
                     return inormal'
1889:
               else if row['D3'] < 0.5 and row['D7'] < 0.5 and row['PP\ CAN\ ID\ 453'] >= 0.5 then:
1890:
                    return 'normal'
1891:
               else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1892:
                     return 'normal'
1893:
               else if row['PP\_CAN\_ID\_42D'] >= 0.5 and row['P\_CAN\_ID\_356'] >= 0.5 then:
1894:
                    return 'normal'
1895:
               else if row['D3'] < 0.5 and row['P\_CAN\_ID\_47F'] >= 0.5 and row['PP\_CAN\_ID\_368'] >= 0.5 then:
1896:
                     return 'normal
1897:
               else if row['D3'] < 0.5 and row['D1'] >= 9.5 and row['P CAN ID 42D'] >= 0.5 then:
1898:
                    return 'normal'
1899:
               else if row['D2'] < 0.5 and row['D1'] >= 9.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
1900:
                     return 'normal
1901:
               else if row['D1'] < 10.5 and row['P\_CAN\_ID\_368'] >= 0.5 and row['D1'] >= 9.5 then:
1902:
                    return 'normal'
1903:
               else if row['D3'] < 0.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
1904:
                     return 'normal'
1905:
               else if row['D6'] < 0.5 and row['P\_CAN\_ID\_368'] >= 0.5 then:
1906:
                    return 'normal
1907:
               else if row['D6'] < 0.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
1908:
                     return 'normal
1909:
               else if row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_391'] >= 0.5 then:
1910:
                    return 'normal'
1911:
               else if row['D3'] < 0.5 and row['D7'] < 0.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
1912:
                     return 'normal
1913:
               else if row['D3'] < 0.5 and row['D5'] < 0.5 and row['PP\_CAN\_ID\_42D'] >= 0.5 then:
1914:
                    return 'normal
1915:
               else if row['D6'] < 0.5 and row['D1'] < 10.5 and row['D1'] >= 9.5 then:
1916:
                     return 'normal'
1917:
               else if row['TimeInterval'] >= 0.00024330615997305 and row['D5'] < 0.5 and row['P\_CAN\_ID\_42D'] >= 0.5 then:
1918:
                    return 'normal
1919-
               else
1920:
                    return 'attack'
1921: else if row['Arbitration\_ID'] == '4A4' then:
1922: if row['PP\_CAN\_ID\_412'] >= 0.5 and
               if row[PP\_CAN\_ID\_412'] >= 0.5 and row[P\_CAN\_ID\_329'] >= 0.5 then:
1923:
                    return 'normal'
1924:
1925:
               else if row['D4'] >= 79.5 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_391'] >= 0.5 then:
                     return 'normal'
1926:
1927:
               else if row['D4'] >= 79.5 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
                    return 'normal'
1928:
               else if row['D4'] >= 79.5 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
1929:
                     return 'normal'
1930:
               else if row['D6'] >= 83.5 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
1931:
                    return 'normal'
1932:
               else if row['D6'] >= 83.5 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
1933:
                    return 'normal'
1934:
               else if row['D6'] >= 83.5 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_381'] >= 0.5 then:
1935:
                    return 'normal'
1936:
               else if row['D5'] >= 79.5 and row['D5'] < 81.5 and row['PP\_CAN\_ID\_412'] >= 0.5 then:
1937:
                    return 'normal'
1938:
               else if row['TimePeriod'] >= 0.02197778224945065 and row['D0'] < 15.5 and row['D0'] >= 12.5 then:
1939:
                    return 'normal'
1940:
               else
1941:
                    return 'attack'
1942: else if row['Arbitration\_ID'] == '4F1' then:
1943:
               if row['DLC'] < 4.5 and row['D2'] >= 95.5 then:
1944:
                     return 'normal'
1945:
               else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1946:
                    return 'normal'
1947:
               else if row['DLC'] < 4.5 and row['D2'] >= 95.5 then:
1948:
                    return 'normal'
1949:
1950:
                    return 'attack'
1951: else if row['Arbitration_ID'] == '500' then:
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1952:
              if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
1953:
                    return 'normal'
1954:
               else if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
1955:
1956:
              else if row['TimePeriod'] >= 0.0533695220947265 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_495'] >= 0.5 then:
1957:
                   return 'normal'
1958:
               else if row['TimePeriod'] >= 0.0533695220947265 and row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
1959:
1960:
               else if row['TimePeriod'] >= 0.0533695220947265 and row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1961:
1962:
               else if row['TimePeriod'] >= 0.0533695220947265 and row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_484'] >= 0.5 then:
1963:
                   return 'normal
1964:
              \textbf{else if } row['TimePeriod'] >= 0.08481884002685545 \ and \ row['TimeInterval'] >= 0.0002455711364746 \ and \ row['P\_CAN\_ID\_260'] >= 0.5 \ \textbf{then}: 1.00002455711364746 \ and \ row['P\_CAN\_ID\_260'] >= 0.000245711364746 \ and \ row['P\_CAN\_ID\_260'] >= 0.000245711364 \ and \ row['P\_CAN\_ID\_260'] >= 0.000245711364 \ and \ row['P\_CAN\_ID\_260'] >= 0.00024711364 \ and \ row['P\_CAN\_ID\_260'] >= 0.00024711464 \ and \ row['P\_CAN\_ID\_
1965:
1966:
               else if row['TimePeriod'] >= 0.08481884002685545 and row['D7'] >= 67.5 and row['P\_CAN\_ID\_495'] >= 0.5 then:
1967:
                   return 'normal'
1968:
              else if row['TimePeriod'] >= 0.08481884002685545 and row['D0'] < 1.5 and row['D1'] >= 6.5 then:
1969:
                   return 'normal'
1970:
               else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
1971:
                   return 'normal'
1972:
              else if row['P\_CAN\_ID\_000'] >= 0.5 then:
1973:
                   return 'normal'
1974:
              else if row['P \ CAN \ ID \ 495'] >= 0.5 and row['PP \ CAN \ ID \ 453'] >= 0.5 then:
1975:
                   return 'normal'
1976:
              else if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_436'] >= 0.5 then:
1977:
                   return 'normal'
1978:
               else if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
1979:
                   return 'normal'
1980:
              else if row['TimePeriod'] >= 0.07221102714538569 and row['D5'] < 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
1981:
                   return 'normal'
1982:
               else if row['TimePeriod'] >= 0.07221102714538569 and row['D7'] >= 67.5 and row['P CAN ID 495'] >= 0.5 then:
1983:
                   return 'normal'
1984:
              else if row['TimePeriod'] >= 0.07221102714538569 and row['D7'] >= 67.5 and row['PP\ CAN\ ID\ 495'] >= 0.5 then:
1985:
                    return 'normal'
1986:
               else if row['TimePeriod'] >= 0.07221102714538569 and row['D0'] < 1.5 and row['D1'] >= 6.5 then:
1987:
                   return 'normal'
1988:
              else if row['D3'] < 0.5 and row['D1'] < 7.5 then:
1989:
                   return 'normal'
1990:
               else if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_470'] >= 0.5 then:
1991:
                   return 'normal
1992:
              else if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
1993:
                    return 'normal'
1994:
               else if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
1995:
                   return 'normal'
              else if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
1996:
1997:
                    return 'normal'
1998:
               else if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
1999:
                   return 'normal'
2000:
              else if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_492'] >= 0.5 then:
2001:
                    return 'normal'
2002:
               else if row['P\_CAN\_ID\_495'] >= 0.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
2003:
                   return 'normal
2004
              else if row['PP\_CAN\_ID\_495'] >= 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2005:
                    return 'normal'
2006.
               else if row['PP\_CAN\_ID\_495'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
2007:
                   return 'normal'
2008:
              else if row['D3'] < 0.5 and row['D4'] >= 7.5 and row['PP\ CAN\ ID\ 2B0'] >= 0.5 then:
2009:
                    return 'normal'
2010:
               else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_495'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
2011:
                   return 'normal'
              else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_453'] >= 0.5 and row['P\_CAN\_ID\_470'] < 0.5 then:
2012:
2013:
                    return 'normal'
2014:
               else if row['D2'] < 0.5 and row['D7'] >= 71.5 and row['P\_CAN\_ID\_495'] >= 0.5 then:
2015:
                    return 'normal'
2016:
              else if row['D2'] < 0.5 and row['D7'] >= 71.5 and row['PP\_CAN\_ID\_495'] >= 0.5 then:
2017:
                    return 'normal'
2018:
               else if row['D2'] < 0.5 and row['P\_CAN\_ID\_495'] >= 0.5 and row['D1'] >= 6.5 then:
2019:
                   return 'normal'
2020:
              else if row['D2'] < 0.5 and row['D0'] >= 0.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
2021:
                    return 'normal'
2022:
2023:
               else if row['D2'] < 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
                    return 'normal'
2024:
              else if row['D5'] < 0.5 and row['D1'] < 7.5 and row['D1'] >= 6.5 then:
2025:
                   return 'normal'
2026:
              else
2027:
                   return 'attack'
2028: else if row['Arbitration_ID'] == '507' then:
2029:
              if row['DLC'] < 4.5 and row['TimePeriod'] >= 0.0537716150283813 and row['D0'] < 0.5 then:
2030:
2031:
               else if row['DLC'] < 4.5 and row['TimePeriod'] >= 0.0537716150283813 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
2032:
2033:
               else if row['DLC'] < 4.5 and row['TimePeriod'] >= 0.0537716150283813 and row['D3'] >= 0.5 then:
2034:
                   return 'normal'
2035:
               else if row['DLC'] < 4.5 and row['P\_CAN\_ID\_153'] >= 0.5 then:
2036:
                   return 'normal'
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2037:
          else if row['D3'] < 1.5 and row['D2'] < 0.5 and row['D3'] >= 0.5 then:
2038:
             return 'normal'
2039:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2040:
             return 'normal'
2041:
          else if row['TimeInterval'] < 0.00019347667694085 and row['P\_CAN\_ID\_153'] >= 0.5 then:
2042:
             return 'normal'
2043:
          else if row['TimeInterval'] < 0.00019347667694085 and row['P CAN ID 220'] >= 0.5 then:
2044:
2045:
          else if row['PP\ CAN\ ID\ 220'] >= 0.5 and row['P\ CAN\ ID\ 453'] >= 0.5 then:
2046:
             return 'normal'
2047:
          else if row['DLC'] < 4.5 and row['D1'] < 0.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
2048:
             return 'normal
2049:
          else if row['DLC'] < 4.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2050:
             return 'normal'
2051:
          else if row['DLC'] < 4.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_500'] >= 0.5 then:
2052:
             return 'normal'
2053:
          else if row['DLC'] < 4.5 and row['D3'] < 1.5 and row['P\_CAN\_ID\_453'] >= 0.5 then:
2054:
             return 'normal'
2055:
          else if row['DLC'] < 4.5 and row['D0'] < 8.5 and row['D0'] >= 7.5 then:
2056:
             return 'normal
2057:
          else if row['DLC'] < 4.5 and row['D0'] < 0.5 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
2058:
             return 'normal'
2059:
          else if row['DLC'] < 4.5 and row['PP\ CAN\ ID\ 153'] >= 0.5 and row['P\ CAN\ ID\ 260'] >= 0.5 then:
2060:
             return 'normal'
2061:
          else if row['TimeInterval'] < 0.00019347667694085 and row['D0'] < 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
2062:
             return 'normal'
2063:
          else if row['DLC'] < 4.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
2064:
             return 'normal'
2065:
          else if row['DLC'] < 4.5 and row['D3'] < 1.5 and row['D0'] < 0.5 then:
2066:
             return 'normal'
2067:
          else
2068:
             return 'attack'
2069: else if row['Arbitration ID'] == '50A' then:
2070:
          if row[PP\_CAN\_ID\_421'] >= 0.5 and row[P\_CAN\_ID\_4F1'] >= 0.5 then:
2071:
             return 'normal
2072:
          else if row['TimePeriod'] >= 0.02226793766021725 and row['D7'] < 0.5 and row['P\_CAN\_ID\_4C9'] >= 0.5 then:
2073:
             return 'normal'
2074:
          else if row['TimePeriod'] >= 0.02226793766021725 and row['TimeInterval'] >= 0.00024545192718505003 and row['P\_CAN\_ID\_421'] >= 0.5 then:
2075:
             return 'normal'
          else if row['TimePeriod'] >= 0.02226793766021725 and row['D4'] < 0.5 and row['P\_CAN\_ID\_507'] >= 0.5 then:
2076:
2077:
             return 'normal
2078:
          else if row['TimePeriod'] >= 0.02226793766021725 and row['PP\_CAN\_ID\_421'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
2079:
             return 'normal'
          else if rowl'TimeInterval'] >= 0.00024545192718505003 and row['PP\_CAN\_ID\_421'] >= 0.5 and row['P\_CAN\_ID\_484'] >= 0.5 then:
2080:
2081:
             return 'normal'
2082:
          else if row['D0'] >= 8.5 and row['D0'] < 11.5 and row['PP\_CAN\_ID\_421'] >= 0.5 then:
2083:
             return 'normal'
2084:
          else if row['D0'] >= 8.5 and row['D0'] < 11.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
2085:
             return 'normal'
2086:
          else if row['D0'] >= 8.5 and row['D0'] < 11.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
2087:
             return 'normal'
2088:
          else if row['D0'] >= 8.5 and row['D0'] < 11.5 and row['PP\_CAN\_ID\_485'] >= 0.5 then:
2089.
              return 'normal'
2090:
          else if row['TimePeriod'] >= 0.02226793766021725 and row['PP\_CAN\_ID\_484'] >= 0.5 then:
2091.
             return 'normal'
2092:
          else if row['D0'] >= 8.5 and row['D0'] < 11.5 then:
2093:
             return 'normal'
2094
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2095:
             return 'normal'
2096:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
2097:
             return 'normal'
2098:
          else if row['D3'] < 0.5 and row['P\_CAN\_ID\_421'] >= 0.5 then:
2099:
             return 'normal'
2100:
          else if row['D3'] < 0.5 and row['P\_CAN\_ID\_507'] >= 0.5 then:
2101:
             return 'normal'
2102:
          else if row['PP\_CAN\_ID\_421'] >= 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2103:
             return 'normal'
2104:
          else if row['PP\_CAN\_ID\_421'] >= 0.5 and row['P\_CAN\_ID\_484'] >= 0.5 then:
2105:
             return 'normal'
2106:
          else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_421'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
2107:
             return 'normal'
2108:
          else if row['D1'] < 0.5 and row['D4'] < 0.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
2109:
             return 'normal'
2110:
          else if row['D1'] < 0.5 and row['D0'] >= 8.5 and row['PP\_CAN\_ID\_421'] >= 0.5 then:
2111:
             return 'normal'
2112:
          else if row['D1'] < 0.5 and row['D0'] >= 8.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
2113:
             return 'normal'
2114:
          else if row['D1'] < 0.5 and row['D0'] >= 8.5 and row['PP\_CAN\_ID\_484'] >= 0.5 then:
2115:
             return 'normal'
2116:
          else if row['D5'] < 0.5 and row['D0'] < 10.5 and row['D0'] >= 9.5 then:
2117:
             return 'normal'
2118:
          else if row['D0'] >= 8.5 and row['D0'] < 10.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2119:
2120:
          else if row['TimeInterval'] >= 0.0002443790435791 and row['D0'] >= 8.5 and row['D0'] < 11.5 then:
2121:
             return 'normal'
```

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2122:
2123:
             return 'attack'
2124: else if row['Arbitration\_ID'] == '50C' then:
2125:
          if row['D1'] >= 254.5 and row['D3'] >= 121.5 then:
2126:
             return 'normal'
2127:
          else if row['TimePeriod'] >= 0.0531954765319824 and row['D3'] >= 121.5 and row['PP\_CAN\_ID\_391'] >= 0.5 then:
2128:
2129:
          else if row['P\_CAN\_ID\_4F1'] >= 0.5 and row['D0'] >= 63.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
2130:
2131:
          else if row['D4'] >= 4.5 and row['D4'] < 6.5 and row['PP\_CAN\_ID\_391'] >= 0.5 then:
2132:
2133:
          else if row['D4'] >= 4.5 and row['D4'] < 6.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
2134:
2135:
          else if row['D4'] >= 4.5 and row['D4'] < 6.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
2136:
             return 'normal
2137:
          else if row['TimePeriod'] >= 0.0531954765319824 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2138:
2139:
          else if row['TimePeriod'] >= 0.0531954765319824 and row['D4'] >= 4.5 and row['D4'] < 6.5 then:
2140:
             return 'normal'
2141:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2142:
             return 'normal
2143:
          else if row['PP\_CAN\_ID\_4F1'] >= 0.5 and row['P\_CAN\_ID\_507'] >= 0.5 then:
2144:
             return 'normal
2145:
          else if row['P\_CAN\_ID\_4F1'] >= 0.5 and row['D6'] < 0.5 and row['D0'] >= 191.5 then:
2146:
             return 'normal'
2147:
          else if row['P \ CAN \ ID \ 4F1'] >= 0.5 and row['D2'] < 3.5 and row['D2'] >= 2.5 then:
2148:
             return 'normal
2149:
          else if row['P\ CAN\ ID\ 4F1'] >= 0.5 and row['D2'] < 3.5 and row['PP\ CAN\ ID\ 329'] >= 0.5 then:
2150:
             return 'normal
2151:
          else if row['P\_CAN\_ID\_4F1'] >= 0.5 and row['D2'] < 3.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
2152:
             return 'normal
2153:
          else if row['P\_CAN\_ID\_4F1'] >= 0.5 and row['D4'] >= 4.5 and row['D4'] < 6.5 then:
2154:
             return 'normal'
2155:
          else if row['D6'] < 0.5 and row['D5'] >= 31.5 and row['D5'] < 32.5 then:
2156:
             return 'normal
2157:
          else if row['D6'] < 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 and row['P\_CAN\_ID\_500'] >= 0.5 then:
2158:
             return 'normal'
2159:
          else if row['D5'] >= 15.5 and row['D2'] < 0.5 and row['P\_CAN\_ID\_500'] >= 0.5 then:
2160:
             return 'normal'
2161:
          else if row['D5'] >= 15.5 and row['D5'] < 32.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
2162:
             return 'normal'
2163:
          else if row['D4'] >= 4.5 and row['D4'] < 6.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
2164:
             return 'normal'
2165:
          else if row['P\_CAN\_ID\_4F1'] >= 0.5 and row['D6'] < 0.5 and row['D0'] >= 127.5 then:
2166:
             return 'normal'
2167:
          else if row['D7'] >= 81.5 and row['D4'] >= 4.5 and row['D4'] < 6.5 then:
2168:
             return 'normal'
2169:
          else if row['D5'] >= 15.5 and row['D4'] >= 4.5 and row['D4'] < 6.5 then:
2170:
             return 'normal'
2171:
          else
2172:
             return 'attack'
2173: else if row['Arbitration\_ID'] == '50E' then:
           \textbf{if } row['TimePeriod'] >= 0.10230791568756101 \ \ and \ \ row['PP\_CAN\_ID\_412'] >= 0.5 \ \textbf{then} : \\ 
2174:
2175:
             return 'normal'
2176:
2177:
          else if row['TimePeriod'] >= 0.10230791568756101 and row['D4'] >= 9.5 and row['D4'] < 10.5 then:
             return 'normal'
2178:
2179:
          else if row['D6'] < 0.5 and row['D3'] < 32.5 and row['D3'] >= 31.5 then:
             return 'normal'
2180:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
2181:
             return 'normal'
2182:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2183:
             return 'normal'
2184:
          else if row['TimePeriod'] >= 0.10285890102386469 and row['PP\_CAN\_ID\_412'] >= 0.5 then:
2185:
2186:
          else if row['TimeInterval'] >= 0.00024628639221189997 and row['P\_CAN\_ID\_453'] >= 0.5 then:
2187:
             return 'normal'
2188:
          else if row['PP\_CAN\_ID\_470'] >= 0.5 and row['P\_CAN\_ID\_507'] >= 0.5 then:
2189:
             return 'normal'
2190:
          else if row['P\_CAN\_ID\_507'] >= 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
2191:
2192:
          else if row['P\_CAN\_ID\_4F1'] >= 0.5 and row['PP\_CAN\_ID\_492'] >= 0.5 then:
2193:
2194:
          2195:
2196:
          else if row['TimePeriod'] >= 0.10285890102386469 and row['TimeInterval'] >= 0.00024628639221189997 and row['PP\_CAN\_ID\_507'] >= 0.5 then:
2197:
2198:
          else if row['TimePeriod'] >= 0.10285890102386469 and row['TimeInterval'] >= 0.00024628639221189997 and row['P\_CAN\_ID\_492'] >= 0.5 then:
2199:
2200:
          else if row['TimePeriod'] >= 0.10285890102386469 and row['D1'] < 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
2201:
2202:
          else if row['TimePeriod'] >= 0.10285890102386469 and row['D6'] < 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
2203:
2204:
          else if row['TimePeriod'] >= 0.10285890102386469 and row['D2'] < 0.5 and row['D3'] >= 31.5 then:
2205:
2206:
          else if row['TimeInterval'] >= 0.00024628639221189997 and row['D4'] >= 9.5 and row['D4'] < 10.5 then:
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2207:
             return 'normal'
2208:
2209:
             return 'attack'
2210: else if row['Arbitration ID'] == '520' then:
2211:
          if row[P_{CAN_ID_49F'}] >= 0.5 and row[P_{CAN_ID_47F'}] >= 0.5 then:
2212:
             return 'normal'
2213:
          else if row['P\_CAN\_ID\_49F'] >= 0.5 and row['PP\_CAN\_ID\_485'] >= 0.5 then:
2214:
2215:
          else if row['TimePeriod'] >= 0.053995490074157645 and row['TimeInterval'] >= 0.00025045871734615 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
2216:
             return 'normal'
2217:
          else if row['TimePeriod'] >= 0.053995490074157645 and row['P\_CAN\_ID\_44E'] >= 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
2218:
2219:
          else if row['TimePeriod'] >= 0.053995490074157645 and row['P\_CAN\_ID\_49F'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
2220:
             return inormal'
2221:
          else if row['D1'] < 0.5 and row['P\_CAN\_ID\_49F'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
2222:
             return 'normal'
2223:
          else if row['P\_CAN\_ID\_44E'] >= 0.5 then:
2224:
             return 'normal'
2225:
          else if row['PP\_CAN\_ID\_49F'] >= 0.5 then:
2226:
             return 'normal
2227:
          else if row['TimePeriod'] >= 0.053995490074157645 and row['TimeInterval'] >= 0.00025045871734615 then:
2228:
             return inormal'
2229:
          else if row['PP\ CAN\ ID\ 000'] >= 0.5 then:
2230:
             return 'normal'
2231:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
2232:
              return 'normal'
2233:
          else if row['TimeInterval'] >= 0.00025033950805659997 and row['P\_CAN\_ID\_44E'] >= 0.5 then:
2234:
             return 'normal'
2235:
          else if row['TimeInterval'] >= 0.00025033950805659997 and row['P\ CAN\ ID\ 07F'] >= 0.5 then:
2236:
             return 'normal'
2237:
          else if row[PCAN ID 49F'] >= 0.5 and row[PPCAN ID 47F'] >= 0.5 then:
2238:
             return 'normal'
2239:
          else if row['P\_CAN\_ID\_49F'] >= 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
2240:
              return 'normal'
2241:
          else if row['P\_CAN\_ID\_49F'] >= 0.5 and row['PP\_CAN\_ID\_356'] >= 0.5 then:
2242:
             return 'normal
2243:
          else if row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_47F'] >= 0.5 then:
2244:
              return 'normal'
2245:
          else if row['P\_CAN\_ID\_4F1'] >= 0.5 and row['PP\_CAN\_ID\_49F'] >= 0.5 then:
2246:
             return 'normal'
2247:
          else if row['TimeInterval'] >= 0.00025033950805659997 and row['P\_CAN\_ID\_49F'] >= 0.5 and row['PP\_CAN\_ID\_490'] >= 0.5 then:
2248:
              return 'normal'
2249:
          else if row['TimeInterval'] >= 0.00025033950805659997 and row['P\_CAN\_ID\_387'] < 0.5 and row['PP\_CAN\_ID\_381'] >= 0.5 then:
2250:
             return 'normal'
2251:
          else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
2252:
              return 'normal'
2253:
          else if row['D7'] < 0.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2254:
2255:
             return 'normal
          else if row['P\_CAN\_ID\_49F'] >= 0.5 then:
2256:
              return 'normal'
2257:
          else if row['TimeInterval'] >= 0.00025033950805659997 and row['P\_CAN\_ID\_368'] >= 0.5 then:
2258:
             return 'normal'
2259:
          else if row['D3'] < 0.5 and row['P\_CAN\_ID\_44E'] >= 0.5 then:
2259:
2260:
2261:
2262:
2263:
2264:
2265:
              return 'normal'
          else if row['D1'] < 0.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
              return 'normal'
          else if row['TimeInterval'] >= 0.00025033950805659997 and row['D3'] < 0.5 and row['D7'] < 0.5 then:
             return 'normal'
2266: return'attack'
2267: else if row['Arbitration\_ID'] == '52A' then:
2268:
          if row['D7'] >= 115.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_50C'] >= 0.5 then:
2269:
2270:
2271:
              return 'normal'
          else if row['D7'] >= 115.5 and row['D1'] < 0.5 and row['PP\_CAN\_ID\_50C'] >= 0.5 then:
             return 'normal'
2272:
2273:
          else if row['D7'] >= 115.5 and row['D2'] < 0.5 and row['P\_CAN\_ID\_520'] >= 0.5 then:
              return 'normal'
2274:
2275:
          else if row['D4'] >= 1.5 and row['D4'] < 2.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
             return 'normal'
2276:
          else if row['D4'] >= 1.5 and row['D4'] < 2.5 then:
2277:
             return 'normal'
2278:
2279:
          else if row['D7'] >= 107.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_50C'] >= 0.5 then:
             return 'normal'
2280:
          else if row['D7'] >= 107.5 and row['D4'] >= 1.5 and row['P\_CAN\_ID\_520'] >= 0.5 then:
2281:
             return 'normal'
2282:
          else if row['D3'] < 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
2283:
             return 'normal'
2284:
          else if row['D4'] < 2.5 and row['D4'] >= 1.5 and row['PP\_CAN\_ID\_50C'] >= 0.5 then:
2285:
             return 'normal'
2286:
          else if row['D4'] < 2.5 and row['D4'] >= 1.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
2287:
             return 'normal'
2288:
          else if row['D4'] < 2.5 and row['D4'] >= 1.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
2289:
             return 'normal'
2290:
          else if row['D7'] >= 107.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2291:
             return 'normal'
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2292.
          else if row['D7'] >= 107.5 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
2293:
             return 'normal'
2294:
          else if row['D7'] >= 107.5 and row['D1'] < 0.5 and row['D0'] >= 6.5 then:
2295:
2296:
          else if row['D2'] < 0.5 and row['D4'] < 2.5 and row['D4'] >= 1.5 then:
2297:
             return 'normal'
2298:
2299
             return 'attack'
2300: else if row['Arbitration\_ID'] == '53B' then:
2301:
          if row['P\_CAN\_ID\_4CB'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
2302:
             return 'normal
2303:
          else if row['P\_CAN\_ID\_4CB'] >= 0.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
2304:
             return 'normal
2305:
          else if row['P\_CAN\_ID\_4CB'] >= 0.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
2306:
             return 'normal
2307:
          else if row['TimePeriod'] >= 0.10285317897796625 and row['P\_CAN\_ID\_4CB'] >= 0.5 and row['D3'] < 0.5 then:
2308:
             return 'normal
2309:
          else if row['TimePeriod'] >= 0.10285317897796625 and row['PP\_CAN\_ID\_4CB'] >= 0.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
2310:
             return 'normal'
2311:
          else if row['TimePeriod'] >= 0.10285317897796625 and row['P\_CAN\_ID\_260'] >= 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
2312:
             return 'normal
2313:
          else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_4CB'] >= 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2314:
             return 'normal
2315:
          else if row['TimePeriod'] >= 0.10285317897796625 and row['PP\_CAN\_ID\_4CB'] >= 0.5 then:
2316:
             return 'normal'
2317:
          else if row['TimePeriod'] >= 0.10285317897796625 and row['P\ CAN\ ID\ 260'] >= 0.5 then:
2318:
             return 'normal
2319:
          else if row['P \ CAN \ ID \ 4CB'] >= 0.5 and row['D3'] < 0.5 then:
2320:
             return 'normal'
2321:
          else if row['D7'] < 0.5 and row['P\_CAN\_ID\_50C'] >= 0.5 then:
2322:
             return 'normal
2323:
          else if row['TimePeriod'] >= 0.10285317897796625 and row['D3'] < 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2324:
             return 'normal'
2325:
          else if row['TimePeriod'] >= 0.10285317897796625 and row['D4'] < 0.5 and row['P CAN ID 000'] >= 0.5 then:
2326:
             return 'normal
2327:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2328:
             return 'normal'
2329:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
2330:
             return 'normal
2331:
          else if row['TimePeriod'] >= 0.10247099399566645 and row['P\_CAN\_ID\_4CB'] >= 0.5 then:
2332:
             return 'normal
2333:
          else if row['PP\_CAN\_ID\_4CB'] >= 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2334:
             return 'normal
2335:
          else if row['PP\_CAN\_ID\_4CB'] >= 0.5 and row['P\_CAN\_ID\_356'] >= 0.5 then:
2336:
             return 'normal'
2337:
          else if row['TimePeriod'] >= 0.10247099399566645 and row['PP\_CAN\_ID\_368'] >= 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
2338:
             return 'normal'
2339:
          else if row['TimeInterval'] >= 0.00024616718292235 and row['P\_CAN\_ID\_4CB'] >= 0.5 and row['D0'] < 0.5 then:
2340:
             return 'normal
2341:
          else if row['TimePeriod'] >= 0.10247099399566645 and row['TimeInterval'] >= 0.00024616718292235 and row['PP\ CAN\ ID\ 47F'] >= 0.5 then:
2342:
             return 'normal'
2343:
          else if row['TimePeriod'] >= 0.10247099399566645 and row['TimeInterval'] >= 0.00024616718292235 and row['P\_CAN\_ID\_260'] >= 0.5 then:
2344:
             return 'normal'
2345:
          2346:
             return 'normal'
2347:
2348:
             return 'attack'
2349: else if row['Arbitration\_ID'] == '53E' then:
2350:
          if row['P\_CAN\_ID\_42D'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
2351:
             return 'normal'
2352:
          else if row['PP\_CAN\_ID\_42D'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
2353:
             return 'normal'
2354:
          else if row['P\_CAN\_ID\_4A7'] >= 0.5 and row['PP\_CAN\_ID\_470'] >= 0.5 then:
2355:
2356:
          else if row['P\_CAN\_ID\_4A7'] >= 0.5 and row['PP\_CAN\_ID\_484'] >= 0.5 then:
2357:
2358:
          else if row['TimePeriod'] >= 0.053174734115600544 and row['D5'] >= 131.5 and row['P\_CAN\_ID\_42D'] >= 0.5 then:
2359:
2360:
          else if row['TimePeriod'] >= 0.053174734115600544 and row['D5'] >= 131.5 and row['P\_CAN\_ID\_484'] >= 0.5 then:
2361:
2362:
          else if row['TimePeriod'] >= 0.053174734115600544 and row['D5'] >= 131.5 and row['P\_CAN\_ID\_470'] >= 0.5 then:
2363:
2364:
          else if row['TimePeriod'] >= 0.053174734115600544 and row['D5'] >= 131.5 and row['PP\_CAN\_ID\_4A7'] >= 0.5 then:
2365:
2366:
          else if row['TimePeriod'] >= 0.053174734115600544 and row['D5'] >= 131.5 and row['P\_CAN\_ID\_53B'] >= 0.5 then:
2367:
2368:
          else if row['TimePeriod'] >= 0.053174734115600544 and row['PP\_CAN\_ID\_42D'] >= 0.5 and row['P\_CAN\_ID\_4A7'] >= 0.5 then:
2369:
2370:
          \textbf{else if } row['TimePeriod'] >= 0.053174734115600544 \ and \ row['PP\_CAN\_ID\_42D'] >= 0.5 \ and \ row['P\_CAN\_ID\_000'] >= 0.5 \ \textbf{then};
2371:
2372:
          else if row['D5'] >= 131.5 and row['D3'] < 0.5 and row['D7'] < 0.5 then:
2373:
             return 'normal'
2374:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2375:
             return 'normal
2376:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
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2377:
2378:
               else if row['D5'] >= 129.5 and row['P\_CAN\_ID\_42D'] >= 0.5 then:
2379:
                    return 'normal'
2380:
               else if row['D5'] >= 129.5 and row['P CAN ID 4A7'] >= 0.5 then:
2381:
2382:
               else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_4A7'] >= 0.5 then:
2383:
2384:
               else if row['PP\_CAN\_ID\_42D'] >= 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2385:
2386:
               else if row['PP\_CAN\_ID\_42D'] >= 0.5 and row['P\_CAN\_ID\_484'] >= 0.5 then:
2387:
2388:
               else if row['D5'] >= 129.5 and row['TimeInterval'] >= 0.00024616718292235 and row['P\_CAN\_ID\_53B'] >= 0.5 then:
2389:
2390:
               else if row['D5'] >= 129.5 and row['D3'] < 0.5 and row['D6'] < 0.5 then:
2391:
                    return 'normal'
2392:
2393:
                    return 'attack'
2394: else if row['Arbitration_ID'] == '53F' then:
2395:
               if row[PP\_CAN\_ID\_4A9'] >= 0.5 and row[P\_CAN\_ID\_453'] >= 0.5 then:
2396:
                    return 'normal'
2397:
               else if row'/TimePeriod'] >= 0.10431349277496335 and row'/TimeInterval'] >= 0.00024878978729245 and row'/PPCANID4A9'] >= 0.5 then:
2398:
                    return 'normal'
2399:
               else if row['TimePeriod'] >= 0.10431349277496335 and row['D3'] < 0.5 and row['P\ CAN\ ID\ 4A9'] >= 0.5 then:
2400:
                    return 'normal'
2401:
               else if row['TimeInterval'] >= 0.00024878978729245 and row['D1'] < 0.5 and row['P\_CAN\_ID\_4A9'] >= 0.5 then:
2402:
                    return <sup>†</sup>normal'
2403:
               else if row['TimePeriod'] >= 0.10431349277496335 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
2404:
                    return 'normal'
2405:
               else if row['TimePeriod'] >= 0.10431349277496335 and row['P CAN ID 386'] >= 0.5 then:
2406:
                    return <sup>†</sup>normal'
2407:
               else if row['TimePeriod'] >= 0.10431349277496335 and row['PP\ CAN\ ID\ 50C'] >= 0.5 then:
2408:
                    return 'normal'
2409:
               else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_4A9'] >= 0.5 then:
2410:
                    return 'normal'
2411:
               else if row['TimePeriod'] >= 0.10431349277496335 and row['TimeInterval'] >= 0.00024878978729245 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2412:
                    return 'normal'
2413:
               else if row['TimePeriod'] >= 0.10431349277496335 and row['TimeInterval'] >= 0.00024878978729245 and row['P\_CAN\_ID\_50C'] >= 0.5 then:
2414:
                    return 'normal'
2415:
               2416:
                    return 'normal
2417:
               else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2418:
                    return 'normal'
2419:
               else if row['P\_CAN\_ID\_000'] >= 0.5 then:
2420:
                    return 'normal'
2421:
               else if row['TimePeriod'] >= 0.10290789604187009 and row['P\ CAN\ ID\ 4A9'] >= 0.5 then:
2422:
                    return 'normal'
2423:
               else if row['TimePeriod'] >= 0.10290789604187009 and row['PP\_CAN\_ID\_4A9'] >= 0.5 then:
2424:
2425:
                    return 'normal'
               else if row['TimePeriod'] >= 0.10290789604187009 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
2425:
2426:
2427:
2428:
2429:
2430:
                    return 'normal'
               else if row['TimePeriod'] >= 0.10290789604187009 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
                    return 'normal'
               else if row['TimeInterval'] >= 0.00024831295013425 and row['P\_CAN\_ID\_4A9'] >= 0.5 then:
                    return 'normal'
2431:
2432:
2433:
2434:
2435:
2436:
2437:
2438:
2439:
2440:
2441:
               else if row['D6'] < 0.5 and row['PP\_CAN\_ID\_4A9'] >= 0.5 then:
                    return 'normal'
               else if row['TimePeriod'] >= 0.10290789604187009 and row['TimeInterval'] >= 0.00024831295013425 and row['P\_CAN\_ID\_500'] >= 0.5 then:
                    return 'normal'
               \textbf{else if } row['TimePeriod'] >= 0.10290789604187009 \ \ and \ \ row['TimeInterval'] >= 0.00024902820587155005 \ \ and \ \ row['P\_CAN\_ID\_52A'] >= 0.5 \ \textbf{then}:
                    return 'normal'
               \textbf{else if } row['TimePeriod'] >= 0.10290789604187009 \ and \ row['TimeInterval'] >= 0.00024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.000024831295013425 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 
                    return 'normal'
               else if row['TimePeriod'] >= 0.10290789604187009 and row['TimeInterval'] >= 0.00024831295013425 and row['P\_CAN\_ID\_329'] >= 0.5 then:
                   return 'normal'
               else
2442:
                    return 'attack'
2443: else if row['Arbitration_ID'] == '541' then:
2444:
               \label{eq:can_in_model} \mbox{if } row['PP\_CAN\_ID\_507'] >= 0.5 \mbox{ and } row['P\_CAN\_ID\_48A'] >= 0.5 \mbox{ then} :
2445:
                    return 'normal'
2446:
               else if row['TimePeriod'] >= 0.02298784255981445 and row['D4'] >= 191.5 and row['D5'] < 0.5 then:
2447:
2448:
               else if row['D2'] >= 64.5 and row['D7'] < 4.5 and row['D2'] < 65.5 then:
2449:
                    return 'normal'
2450:
               else if row['D0'] < 3.5 and row['D0'] >= 2.5 then:
2451:
                    return 'normal'
2452:
               else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2453:
                    return 'normal'
2454:
               else if row['D4'] >= 191.5 and row['D3'] >= 127.5 and row['P\_CAN\_ID\_470'] >= 0.5 then:
2455:
2456:
               else if row['D4'] >= 191.5 and row['D3'] >= 127.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2457:
2458:
               else if row['D4'] >= 191.5 and row['D3'] >= 127.5 and row['P\_CAN\_ID\_500'] >= 0.5 then:
2459:
2460:
               else if row['D4'] >= 191.5 and row['D3'] >= 127.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
2461:
                    return 'normal'
```

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2462:
              else if row['D4'] >= 191.5 and row['D3'] >= 127.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
2463:
                    return 'normal'
2464:
               else if row['D4'] >= 191.5 and row['D3'] >= 127.5 and row['P\_CAN\_ID\_484'] >= 0.5 then:
2465:
2466:
              else if row['D4'] >= 191.5 and row['D3'] >= 127.5 and row['P\_CAN\_ID\_52A'] >= 0.5 then:
2467:
                   return 'normal'
2468:
               else if row['D4'] >= 191.5 and row['D2'] >= 64.5 and row['D2'] < 65.5 then:
2469:
                   return 'normal'
2470:
              else
2471:
                   return 'attack'
2472: else if row['Arbitration\_ID'] == '544' then:
2473:
              if row['D0'] >= 254.5 and row['D3'] >= 254.5 then:
2474:
                   return 'normal'
2475:
               else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2476:
                   return 'normal'
2477:
              else if row['D0'] >= 254.5 and row['D2'] >= 254.5 then:
2478:
                   return 'normal'
2479:
              else
2480:
                   return 'attack'
2481: else if row['Arbitration\_ID'] == '553' then:
2482:
              if row['TimePeriod'] >= 0.1021214723587036 and row['P\ CAN\ ID\ 544'] >= 0.5 then:
2483:
                   return 'normal'
2484:
              else if row['PP\ CAN\ ID\ 544'] >= 0.5 and row['P\ CAN\ ID\ 164'] >= 0.5 then:
2485:
                   return 'normal'
2486:
              else if row['PP\_CAN\_ID\_544'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
2487:
                    return 'normal'
2488:
               else if row['PP\_CAN\_ID\_544'] >= 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
2489:
                   return 'normal'
2490:
              else if row['D6'] >= 127.5 and row['TimePeriod'] >= 0.1021214723587036 and row['D3'] < 2.5 then:
2491:
                    return 'normal'
2492:
               else if row['D6'] >= 127.5 and row['P CAN ID 544'] >= 0.5 and row['D3'] < 2.5 then:
2493:
                   return 'normal
2494:
              else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2495:
                    return 'normal
2496:
              else if row['TimePeriod'] >= 0.1014875173568725 and row['D6'] >= 127.5 then:
2497:
                   return 'normal'
2498:
              else if row['P\_CAN\_ID\_544'] >= 0.5 and row['D7'] < 0.5 then:
2499:
                   return 'normal'
2500:
              else
2501:
                   return 'attack'
2502: else if row['Arbitration\_ID'] == '559' then:
2503:
              if row['TimePeriod'] >= 0.10227108001708979 and row['TimeInterval'] >= 0.00025045871734615 and row['P\_CAN\_ID\_53E'] >= 0.5 then:
2504:
                    return 'normal'
2505:
              else if row['D3'] < 0.5 and row['P\_CAN\_ID\_453'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
2506:
                    return 'normal
2507:
               else if row['TimePeriod'] >= 0.10227108001708979 and row['TimeInterval'] >= 0.00025045871734615 then:
2508:
                    return 'normal'
2509:
               else if row['TimePeriod'] >= 0.10227108001708979 and row['D3'] < 0.5 and row['P\_CAN\_ID\_53E'] >= 0.5 then:
2510:
                    return 'normal
2511:
               else if row['TimeInterval'] >= 0.00025045871734615 and row['D7'] < 0.5 and row['P\_CAN\_ID\_470'] >= 0.5 then:
2512:
2513:
                    return 'normal'
              else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2514:
                    return 'normal'
2515:
               else if row['P\_CAN\_ID\_000'] >= 0.5 then:
2516:
2517:
                    return 'normal
               else if row['TimePeriod'] >= 0.10375189781188965 and row['P\_CAN\_ID\_453'] >= 0.5 then:
2518:
2519:
                    return 'normal
               else if row['TimePeriod'] >= 0.10375189781188965 and row['PP\_CAN\_ID\_50A'] >= 0.5 then:
2520:
2521:
2522:
                    return 'normal'
               else if row['TimePeriod'] >= 0.10375189781188965 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
                    return 'normal'
2523:
               else if row['TimePeriod'] >= 0.10375189781188965 and row['TimeInterval'] >= 0.00025022029876705 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
2524:
2525:
                    return 'normal'
               else if row['TimePeriod'] >= 0.10375189781188965 and row['TimeInterval'] >= 0.00025022029876705 and row['P\_CAN\_ID\_470'] >= 0.5 then:
2526:
                   return 'normal'
2527:
               else if row['TimeInterval'] >= 0.00025022029876705 and row['D7'] < 0.5 and row['PP\_CAN\_ID\_453'] >= 0.5 then:
2528:
2529:
                    return inormal'
               else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_470'] >= 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2530:
                   return 'normal'
2531:
               else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_470'] >= 0.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
2532:
                   return 'normal'
2533:
               else if row['PP\_CAN\_ID\_4F1'] >= 0.5 and row['P\_CAN\_ID\_53E'] >= 0.5 then:
2534:
                   return 'normal'
2535:
              else if row['TimePeriod'] >= 0.10375189781188965 and row['TimeInterval'] >= 0.00025022029876705 and row['PP\_CAN\_ID\_470'] >= 0.5 then:
2536:
2537:
               else if row['TimePeriod'] >= 0.10375189781188965 and row['TimeInterval'] >= 0.00025022029876705 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2538:
                   return 'normal'
2539:
              else if row['TimePeriod'] >= 0.10375189781188965 and row['TimeInterval'] >= 0.00025022029876705 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
2540:
2541:
               2542:
                   return 'normal
2543:
              \textbf{else if } row['TimePeriod'] >= 0.10375189781188965 \ and \ row['TimeInterval'] >= 0.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025022029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.00025029876705 \ and \ row['PP\_CAN\_ID\_4F1'] >= 0.5 \ \textbf{then}: 1.0002502997070707070707070707070707070
2544:
                   return 'normal'
2545:
               else if row['TimeInterval'] >= 0.00025022029876705 and row['D7'] < 0.5 and row['PP\_CAN\_ID\_470'] >= 0.5 then:
2546:
                   return 'normal'
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2547:
2548:
                   return 'attack'
2549: else if row['Arbitration\_ID'] == '563' then:
2550:
              if row['P\_CAN\_ID\_50E'] >= 0.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 then:
2551:
2552:
              else if row['D0'] >= 191.5 and row['TimePeriod'] >= 0.021715521812438902 and row['D1'] < 3.5 then:
2553:
2554:
              \textbf{else if } row['D0'] >= 191.5 \ and \ row['TimePeriod'] >= 0.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.022164583206176702 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320617602 \ and \ row['P\_CAN\_ID\_553'] >= 0.5 \ \textbf{then}: 10.02216458320000 \ and \ 
2555:
2556:
              else if row['D0'] >= 191.5 and row['TimePeriod'] >= 0.022164583206176702 and row['PP\_CAN\_ID\_553'] >= 0.5 then:
2557:
2558:
              else if row['D0'] >= 191.5 and row['TimePeriod'] >= 0.022164583206176702 and row['P\_CAN\_ID\_50E'] >= 0.5 then:
2559:
                   return 'normal'
2560:
              else if row['D0'] >= 191.5 and row['D0'] < 192.5 and row['D2'] < 0.5 then:
2561:
                   return 'normal'
2562:
2563:
                   return 'attack'
2564: else if row['Arbitration\_ID'] == '568' then:
2565:
              if row['TimePeriod'] >= 0.053556442260742146 and row['PP\_CAN\_ID\_50E'] >= 0.5 then:
2566:
                   return 'normal'
2567:
              else if row['P\ CAN\ ID\ 50E'] >= 0.5 and row['PP\ CAN\ ID\ 329'] >= 0.5 then:
2568:
                   return 'normal'
2569:
              else if row['TimePeriod'] >= 0.053556442260742146 and row['D4'] >= 127.5 and row['D2'] < 0.5 then:
2570:
                   return 'normal'
2571:
              else if row['D4'] >= 127.5 and row['D3'] >= 129.5 and row['D5'] < 0.5 then:
2572:
                   return 'normal'
2573:
              else if row['D4'] >= 127.5 and row['D3'] >= 129.5 and row['D4'] < 128.5 then:
2574:
                   return 'normal'
2575:
              else if row['TimePeriod'] >= 0.05408322811126705 and row['PP\ CAN\ ID\ 50E'] >= 0.5 then:
2576:
                   return 'normal'
2577:
              else if row['P \ CAN \ ID \ 50E'] >= 0.5 and row['PP \ CAN \ ID \ 453'] >= 0.5 then:
2578:
                   return 'normal'
2579:
              else if row['P\_CAN\_ID\_50E'] >= 0.5 and row['PP\_CAN\_ID\_485'] >= 0.5 then:
2580:
                   return 'normal'
2581:
              else if row['TimePeriod'] >= 0.05408322811126705 and row['D4'] >= 127.5 and row['D2'] < 0.5 then:
2582:
                   return 'normal'
2583:
              else if row['D4'] >= 127.5 and row['D2'] < 0.5 and row['PP\_CAN\_ID\_50E'] >= 0.5 then:
2584:
                   return 'normal'
2585:
              else if row['D3'] >= 129.5 and row['D1'] < 0.5 and row['D2'] < 0.5 then:
2586:
                   return 'normal'
2587:
              else
2588:
                   return 'attack'
2589: else if row['Arbitration\_ID'] == '572' then:
2590:
              \textbf{if } row['TimePeriod'] >= 0.10240948200225825 \ and \ row['P\_CAN\_ID\_49F'] >= 0.5 \ \textbf{then}:
2591:
                   return 'normal'
2592:
              else if row['TimePeriod'] >= 0.10240948200225825 and row['PP\ CAN\ ID\ 49F'] >= 0.5 then:
2593:
                   return 'normal'
2594:
              else if row['TimePeriod'] >= 0.10240948200225825 and row['P\_CAN\_ID\_44E'] >= 0.5 then:
2595:
                   return 'normal'
2596:
              else if row['PP\_CAN\_ID\_520'] >= 0.5 and row['P\_CAN\_ID\_52A'] >= 0.5 then:
2597:
                    return 'normal
2598:
              else if row['TimePeriod'] >= 0.10240948200225825 and row['TimeInterval'] >= 0.00024855136871334996 and row['P\_CAN\_ID\_387'] >= 0.5 then:
2599:
                   return 'normal'
2600:
              else if row['TimePeriod'] >= 0.10240948200225825 and row['D0'] < 0.5 and row['PP\_CAN\_ID\_387'] >= 0.5 then:
2601:
                   return 'normal'
2602:
              \textbf{else if } row['TimePeriod'] >= 0.10240948200225825 \ and \ row['PP\_CAN\_ID\_520'] >= 0.5 \ and \ row['P\_CAN\_ID\_260'] >= 0.5 \ \textbf{then}:
2603:
                   return 'normal'
2604:
              else if row['TimePeriod'] >= 0.10240948200225825 and row['P\_CAN\_ID\_520'] >= 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
2605:
                   return 'normal'
2606:
              2607:
                   return 'normal'
2608:
              else if row['P\_CAN\_ID\_520'] >= 0.5 then:
2609:
                   return 'normal'
2610:
              else if row['TimePeriod'] >= 0.10240948200225825 and row['TimeInterval'] >= 0.00024855136871334996 and row['P\_CAN\_ID\_53E'] >= 0.5 then:
2611:
                   return 'normal'
2612:
              2613:
                   return 'normal'
2614:
              else if row['TimeInterval'] >= 0.00024855136871334996 and row['D1'] < 0.5 and row['P\_CAN\_ID\_52A'] >= 0.5 then:
2615:
2616:
              else if row['TimeInterval'] >= 0.00024855136871334996 and row['D7'] < 0.5 and row['PP\_CAN\_ID\_520'] >= 0.5 then:
2617:
                   return 'normal'
2618:
              else if row['P\_CAN\_ID\_000'] >= 0.5 then:
2619:
                   return 'normal'
2620:
              else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2621:
                   return 'normal'
2622:
              else if row['TimePeriod'] >= 0.10446858406066889 and row['PP\_CAN\_ID\_520'] >= 0.5 then:
2623:
2624:
              else if row['TimePeriod'] >= 0.10446858406066889 and row['PP\_CAN\_ID\_49F'] >= 0.5 then:
2625:
                   return 'normal'
2626:
              else if row['TimePeriod'] >= 0.10446858406066889 and row['P\_CAN\_ID\_49F'] >= 0.5 then:
2627:
                   return 'normal
2628:
              else if row['TimePeriod'] >= 0.10446858406066889 and row['P\_CAN\_ID\_381'] >= 0.5 then:
2629:
                   return 'normal'
2630:
              else if row['TimePeriod'] >= 0.10446858406066889 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
2631:
                   return 'normal'
```

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2632:
          else if row['TimePeriod'] >= 0.10446858406066889 and row['TimeInterval'] >= 0.0002493858337402 and row['P\_CAN\_ID\_520'] >= 0.5 then:
2633:
             return 'normal'
2634:
          else if row['TimeInterval'] >= 0.00024855136871335 and row['D3'] < 0.5 and row['PP\_CAN\_ID\_520'] >= 0.5 then:
2635:
2636:
          else if row['D1'] < 0.5 and row['D6'] < 0.5 and row['P\_CAN\_ID\_520'] >= 0.5 then:
2637:
             return 'normal'
2638:
          else if row['TimePeriod'] >= 0.10446858406066889 and row['PP\_CAN\_ID\_381'] >= 0.5 then:
2639:
2640:
          else if row'/TimePeriod'] >= 0.10446858406066889 and row['TimeInterval'] >= 0.00024855136871335 and row['P\ CAN\ ID\ 329'] >= 0.5 then:
2641:
2642:
          else if row['TimePeriod'] >= 0.10446858406066889 and row['TimeInterval'] >= 0.00024855136871335 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
2643:
             return 'normal'
2644:
          else
2645:
2646: else if row['Arbitration_ID'] == '57F' then:
2647:
          if row['TimePeriod'] >= 0.29147088527679443 and row['P\_CAN\_ID\_568'] >= 0.5 then:
2648:
             return 'normal'
2649:
          else if row['TimePeriod'] >= 0.29147088527679443 and row['P\_CAN\_ID\_453'] >= 0.5 then:
2650:
             return 'normal
2651:
          else if row['TimePeriod'] >= 0.29147088527679443 and row['D0'] >= 104.5 and row['D1'] < 0.5 then:
2652:
             return 'normal'
2653:
          else if row['D0'] >= 104.5 and row['D0'] < 105.5 then:
2654:
             return 'normal'
2655:
          else if row['TimePeriod'] >= 1.066779613494873 then:
2656:
             return 'normal'
2657:
          else if row['D0'] >= 104.5 and row['D1'] < 0.5 and row['D0'] < 105.5 then:
2658:
             return 'normal'
2659:
          else
2660:
             return 'attack'
2661: else if row['Arbitration\_ID'] == '58B' then:
2662:
          if row['D3'] < 0.5 and row['P\_CAN\_ID\_48A'] >= 0.5 and row['PP\_CAN\_ID\_386'] >= 0.5 then:
2663:
             return 'normal'
2664:
          else if row['D3'] < 0.5 and row['P\_CAN\_ID\_48A'] >= 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
2665:
             return 'normal
2666:
          else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
2667:
             return 'normal
          else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_53E'] >= 0.5 then:
2668:
2669:
             return 'normal'
2670:
          else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
2671:
             return 'normal
          else if row['D3'] < 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 and row['PP\_CAN\_ID\_490'] >= 0.5 then:
2672:
2673:
             return 'normal'
2674:
          else if row['D3'] < 0.5 and row['P\_CAN\_ID\_568'] >= 0.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
2675:
             return 'normal'
          else if row['D6'] < 0.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_568'] >= 0.5 then:
2676:
2677:
             return 'normal'
2678:
          else if row['D1'] < 0.5 and row['D0'] >= 16.5 and row['P\_CAN\_ID\_53E'] >= 0.5 then:
2679:
             return 'normal
2680:
          else if row['D7'] < 0.5 and row['D0'] >= 16.5 and row['P\_CAN\_ID\_568'] >= 0.5 then:
2681:
             return 'normal'
2682:
          else if row['D7'] < 0.5 and row['P\_CAN\_ID\_48A'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
2683:
             return 'normal'
2684.
          else if row['D7'] < 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
2685:
             return 'normal'
2686
          else if row['D0'] >= 16.5 and row['P\_CAN\_ID\_48A'] >= 0.5 and row['PP\_CAN\_ID\_340'] >= 0.5 then:
2687:
             return 'normal'
2688:
          else if row['D2'] < 0.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
2689:
             return 'normal'
2690:
          else if row['D3'] < 0.5 and row['P\_CAN\_ID\_48A'] >= 0.5 then:
2691:
             return 'normal'
2692:
          else if row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2693:
             return 'normal'
2694:
          else if row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_000'] >= 0.5 then:
2695:
             return 'normal'
2696:
          else if row['D3'] < 0.5 and row['D6'] < 0.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 then:
2697:
             return 'normal'
2698:
          else if row['D3'] < 0.5 and row['D7'] < 0.5 and row['PP\_CAN\_ID\_490'] >= 0.5 then:
2699:
             return 'normal'
2700:
          else if row['D3'] < 0.5 and row['D0'] >= 16.5 and row['P\_CAN\_ID\_490'] >= 0.5 then:
2701:
             return 'normal'
2702:
          else if row['P\_CAN\_ID\_48A'] >= 0.5 then:
2703:
             return 'normal'
2704:
          else if row['PP\_CAN\_ID\_48A'] >= 0.5 then:
2705:
2706:
          else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_490'] >= 0.5 then:
2707:
2708:
          else if row['D3'] < 0.5 and row['P\_CAN\_ID\_490'] >= 0.5 then:
2709:
             return 'normal
2710:
          else if row['P\_CAN\_ID\_4F1'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
2711:
2712:
          else if row['D3'] < 0.5 and row['D6'] < 0.5 and row['D0'] >= 16.5 then:
2713:
             return 'normal
2714:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2715:
             return 'normal
2716:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
```

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2717:
2718:
          else if row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
2719:
             return 'normal'
2720:
          else if row['PP\ CAN\ ID\ 48A'] >= 0.5 and row['P\ CAN\ ID\ 386'] >= 0.5 then:
2721:
2722:
          else if row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
2723:
2724:
          else if row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
2725:
2726:
          else if row['P\_CAN\_ID\_48A'] >= 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
2727:
             return 'normal'
2728:
          else if row['P\ CAN\ ID\ 48A'] >= 0.5 and row['PP\ CAN\ ID\ 4F1'] >= 0.5 then:
2729:
             return 'normal
2730:
          else if row[PCAN ID 48A'] >= 0.5 and row[PPCAN ID 329'] >= 0.5 then:
2731:
             return 'normal
          else if row['P\_CAN\_ID\_260'] >= 0.5 and row['PP\_CAN\_ID\_164'] >= 0.5 then:
2732:
2733:
2734:
          else if row['PP\_CAN\_ID\_164'] >= 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
2735:
             return 'normal
2736:
          else if row['PP\_CAN\_ID\_394'] >= 0.5 and row['P\_CAN\_ID\_387'] >= 0.5 then:
2737:
             return 'normal
2738:
          else if row['D3'] < 0.5 and row['D1'] < 0.5 and row['P_CAN_ID_4C9'] >= 0.5 then:
2739:
             return 'normal
2740:
          else if row['D3'] < 0.5 and row['D1'] < 0.5 and row['P\_CAN\_ID\_164'] >= 0.5 then:
2741:
             return 'normal
2742:
          else if row['D3'] < 0.5 and row['D6'] < 0.5 and row['P\_CAN\_ID\_568'] >= 0.5 then:
2743:
             return 'normal'
2744:
          else if row['D3'] < 0.5 and row['D6'] < 0.5 and row['PP\ CAN\ ID\ 164'] >= 0.5 then:
2745:
             return 'normal
2746:
          else if row['D3'] < 0.5 and row['D6'] < 0.5 and row['P\_CAN\_ID\_50E'] >= 0.5 then:
2747:
             return 'normal
2748:
          else if row['D3'] < 0.5 and row['D6'] < 0.5 and row['PP\_CAN\_ID\_568'] >= 0.5 then:
2749:
             return 'normal
2750:
          else if row['D3'] < 0.5 and row['D0'] >= 16.5 and row['PP\_CAN\_ID\_394'] >= 0.5 then:
2751:
             return 'normal'
2752:
          else if row['D3'] < 0.5 and row['D0'] >= 16.5 and row['P CAN ID 387'] >= 0.5 then:
2753:
             return 'normal
2754:
          else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
2755:
              return 'normal'
2756:
          else if row['D3'] < 0.5 and row['P\_CAN\_ID\_48A'] >= 0.5 and row['PP\_CAN\_ID\_260'] >= 0.5 then:
2757:
             return 'normal
2758:
          else if row['D1'] < 0.5 and row['D4'] < 0.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
2759:
             return 'normal
2760:
          else if row['D1'] < 0.5 and row['D0'] >= 16.5 and row['P\_CAN\_ID\_48A'] >= 0.5 then:
2761:
             return 'normal'
2762:
          else if row['D1'] < 0.5 and row['D0'] >= 16.5 and row['P\_CAN\_ID\_329'] >= 0.5 then:
2763:
              return 'normal'
2764:
          else if row['D1'] < 3.5 and row['D4'] < 0.5 and row['P\_CAN\_ID\_2B0'] >= 0.5 then:
2765:
              return 'normal'
          else if row['D2'] < 0.5 and row['D4'] < 0.5 and row['PP\_CAN\_ID\_2B0'] >= 0.5 then:
2766:
2767:
             return 'normal'
2768:
          else if row['D0'] >= 16.5 and row['D0'] < 18.5 and row['P CAN ID 386'] >= 0.5 then:
2769:
              return 'normal'
2770:
          else if row['D0'] >= 16.5 and row['D0'] < 18.5 and row['PP\_CAN\_ID\_220'] >= 0.5 then:
2771.
              return 'normal'
2772:
          else if row['D0'] >= 16.5 and row['D0'] < 18.5 and row['PP\_CAN\_ID\_130'] >= 0.5 then:
2773:
              return 'normal'
2774:
          else if row['D0'] >= 16.5 and row['D0'] < 18.5 and row['PP\_CAN\_ID\_153'] >= 0.5 then:
2775:
              return 'normal'
2776:
          else if row['D0'] >= 16.5 and row['D0'] < 17.5 and row['PP\_CAN\_ID\_4F1'] >= 0.5 then:
2777:
              return 'normal'
2778:
          else if row['D0'] >= 16.5 and row['D0'] < 17.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
              return 'normal'
2779:
2780:
          else if row['D3'] < 0.5 and row['PP\_CAN\_ID\_48A'] >= 0.5 then:
2781:
             return 'normal'
2782:
          else if row['D0'] >= 16.5 and row['D0'] < 18.5 then:
2783:
              return 'normal'
2784:
          else if row['D1'] < 0.5 and row['D0'] >= 16.5 and row['P\_CAN\_ID\_386'] >= 0.5 then:
2785:
             return 'normal'
2786:
          else if row['D1'] < 0.5 and row['D0'] >= 16.5 and row['P\_CAN\_ID\_4F1'] >= 0.5 then:
2787:
             return 'normal'
2788:
2789:
             return 'attack'
2790: else if row['Arbitration_ID'] == '593' then:
2791:
          if row['D2'] >= 254.5 and row['D4'] >= 254.5 then:
2792:
             return 'normal'
2793:
          else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2794:
              return 'normal'
2795:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
2796:
2797:
          else if row['D2'] >= 254.5 and row['D4'] >= 254.5 then:
2798:
             return 'normal'
2799:
          else
2800:
             return 'attack'
2801: else if row['Arbitration_ID'] == '5A6' then:
```

```
2802:
               if row['TimePeriod'] >= 0.10222733020782471 and row['P\_CAN\_ID\_53B'] >= 0.5 then:
2803:
                    return 'normal
2804:
               else if row['TimePeriod'] >= 0.10222733020782471 and row['PP\_CAN\_ID\_53B'] >= 0.5 then:
2805:
2806:
               else if row['P\_CAN\_ID\_53B'] >= 0.5 and row['PP\_CAN\_ID\_4CB'] >= 0.5 then:
2807:
                    return 'normal'
2808:
               else if row['TimeInterval'] >= 0.00024878978729245 and row['D1'] < 0.5 and row['PP\ CAN\ ID\ 53B'] >= 0.5 then:
2809:
2810:
               else if row['P\_CAN\_ID\_53B'] >= 0.5 and row['D3'] < 0.5 and row['D5'] < 0.5 then:
2811:
                    return 'normal'
2812:
               else if row['P\_CAN\_ID\_53B'] >= 0.5 then:
2813:
                    return 'normal
2814:
               else if row['TimePeriod'] >= 0.19850432872772217 and row['TimeInterval'] >= 0.00024950504302975003 then:
2815:
                    return 'normal'
2816:
               else if row['TimePeriod'] >= 0.10326457023620605 and row['P\_CAN\_ID\_53B'] >= 0.5 then:
2817:
                    return 'normal'
2818:
               else if row['P\_CAN\_ID\_53B'] >= 0.5 and row['TimeInterval'] >= 0.00024831295013425 then:
2819:
                    return 'normal'
2820:
               else if row['PP\_CAN\_ID\_53B'] >= 0.5 and row['P\_CAN\_ID\_260'] >= 0.5 then:
2821:
                    return 'normal
2822:
               else if row['PP\_CAN\_ID\_53B'] >= 0.5 and row['P\_CAN\_ID\_53E'] >= 0.5 then:
2823:
                    return 'normal'
2824:
               else if row['PP \ CAN \ ID \ 53B'] >= 0.5 then:
2825:
                    return 'normal'
2826:
               else if row['TimePeriod'] >= 0.10326457023620605 and row['P\_CAN\_ID\_53E'] >= 0.5 and row['PP\_CAN\_ID\_453'] < 0.5 then:
2827:
                    return 'normal'
2828:
               else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2829:
                    return 'normal
2830:
               else if row['TimePeriod'] >= 0.10288596153259269 and row['P\_CAN\_ID\_53B'] >= 0.5 then:
2831:
                    return 'normal'
2832:
               else if row['TimePeriod'] >= 0.10288596153259269 and row['PP\ CAN\ ID\ 53B'] >= 0.5 then:
2833:
                    return 'normal'
2834:
               else if row['TimePeriod'] >= 0.10288596153259269 and row['PP\ CAN\ ID\ 2B0'] >= 0.5 then:
2835:
                    return 'normal'
2836:
               else if row['TimeInterval'] >= 0.0002484321594238 and row['P\_CAN\_ID\_53B'] >= 0.5 then:
2837:
                    return 'normal
2838:
               else if row['D3'] < 0.5 and row['P\_CAN\_ID\_53E'] >= 0.5 then:
2839:
                    return 'normal'
2840:
               else if row['D1'] < 0.5 and row['PP\_CAN\_ID\_53B'] >= 0.5 then:
2841:
                    return 'normal
2842:
               else if row['TimePeriod'] >= 0.1006189584732055 and row['P CAN ID 381'] >= 0.5 then:
2843:
                    return 'normal'
2844:
               else if row['TimeInterval'] >= 0.0002484321594238 and row['PP\_CAN\_ID\_4CB'] >= 0.5 then:
2845:
                    return 'normal
2846:
               else if row'/TimePeriod' > 0.1006189584732055 and row'/TimeInterval' > 0.0002484321594238 and row'/PP CAN ID 356' > 0.5 then:
2847:
                    return 'normal'
2848:
               else if row['TimePeriod'] >= 0.1006189584732055 and row['D0'] < 0.5 and row['PP\_CAN\_ID\_47F'] >= 0.5 then:
2849:
                    return 'normal
2850:
               else if row['PP\_CAN\_ID\_4CB'] >= 0.5 then:
2851:
                    return 'normal'
2852:
               else if row['TimePeriod'] >= 0.1006189584732055 and row['TimeInterval'] >= 0.0002484321594238 then:
2853:
                    return 'normal
2854:
               else
2855:
                    return 'attack'
2856: else if row['Arbitration_ID'] == '5B0' then:
2857:
               if \ row['TimePeriod'] >= 0.20618176460266105 \ and \ row['P\_CAN\_ID\_52A'] >= 0.5 \ then: \\ row['P\_CAN\_ID\_52A'] >= 0.5 \ 
2858:
                    return 'normal
2859:
               else if row['TimePeriod'] >= 0.20618176460266105 and row['PP\_CAN\_ID\_52A'] >= 0.5 then:
2860:
                    return 'normal'
2861:
               else if row['TimePeriod'] >= 0.20618176460266105 and row['DLC'] < 4.5 and row['D0'] >= 31.5 then:
2862:
                    return 'normal
               else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['D0'] >= 31.5 then:
2863:
2864:
                    return 'normal'
2865:
               else if row['TimePeriod'] >= 0.2091220617294311 and row['D1'] >= 19.5 then:
2866:
                    return 'normal'
2867:
               else if row['DLC'] < 4.5 and row['D3'] < 0.5 and row['D0'] >= 32.5 then:
2868:
                    return 'normal'
2869:
               else if row['PP\_CAN\_ID\_000'] >= 0.5 then:
2870:
                    return 'normal'
2871:
               else if row['TimePeriod'] >= 0.2056969404220581 and row['D3'] >= 2.5 then:
2872:
                    return 'normal'
2873:
               else if row['TimeInterval'] >= 0.00024628639221189997 and row['D3'] < 3.5 and row['D3'] >= 2.5 then:
2874:
                   return 'normal'
2875:
               else
2876:
                    return 'attack'
2877: else if row['Arbitration\_ID'] == '5BE' then:
2878:
               if row['TimePeriod'] >= 0.2119209766387939 and row['P\_CAN\_ID\_368'] >= 0.5 then:
2879:
2880:
               else if row['TimePeriod'] >= 0.2119209766387939 and row['D3'] >= 2.5 then:
2881:
2882:
               else if row['D3'] < 3.5 and row['TimeInterval'] >= 0.00024688243865964997 and row['D3'] >= 2.5 then:
2883:
                    return 'normal
2884:
2885:
                    return 'attack'
2886: else if row['Arbitration_ID'] == '5CD' then:
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2887:
          if row['TimePeriod'] >= 0.1025534868240356 and row['P\_CAN\_ID\_5B0'] >= 0.5 then:
2888:
              return 'normal
2889:
          else if row['TimePeriod'] >= 0.1025534868240356 and row['P\_CAN\_ID\_572'] >= 0.5 then:
2890:
2891:
          else if row['TimePeriod'] >= 0.1025534868240356 and row['PP\_CAN\_ID\_5B0'] >= 0.5 then:
2892:
             return 'normal'
2893:
          else if row['TimePeriod'] >= 0.1025534868240356 and row['P\_CAN\_ID\_568'] >= 0.5 then:
2894:
             return 'normal'
2895:
          else if row['P\_CAN\_ID\_52A'] >= 0.5 and row['PP\_CAN\_ID\_000'] >= 0.5 then:
2896:
2897:
          else if row['P\_CAN\_ID\_52A'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
2898:
             return 'normal
2899:
          else if row['PP\_CAN\_ID\_52A'] >= 0.5 and row['P\_CAN\_ID\_53F'] >= 0.5 then:
2900:
2901:
          else if row['TimePeriod'] >= 0.1025534868240356 and row['D3'] < 0.5 and row['P\_CAN\_ID\_541'] >= 0.5 then:
2902:
2903:
          else if row['TimePeriod'] >= 0.1025534868240356 and row['D2'] < 0.5 and row['P\_CAN\_ID\_58B'] >= 0.5 then:
2904:
             return 'normal'
2905:
          else if row['TimePeriod'] >= 0.1025534868240356 and row['PP_CAN_ID_52A'] >= 0.5 and row['P_CAN_ID_000'] >= 0.5 then:
2906:
             return 'normal'
2907:
          else if row['P\_CAN\_ID\_5B0'] >= 0.5 then:
2908:
             return 'normal'
2909:
          else if row['PP \ CAN \ ID \ 000'] >= 0.5 then:
2910:
             return 'normal'
2911:
          else if row['P\_CAN\_ID\_000'] >= 0.5 then:
2912:
             return 'normal'
2913:
          else if row['TimePeriod'] >= 0.1025170087814331 and row['P\_CAN\_ID\_553'] >= 0.5 then:
2914:
             return 'normal'
2915:
          else if row['TimePeriod'] >= 0.1025170087814331 and row['PP\_CAN\_ID\_553'] >= 0.5 then:
2916:
              return 'normal'
2917:
          else if row['TimePeriod'] >= 0.1025170087814331 and row['PP\ CAN\ ID\ 2B0'] >= 0.5 then:
2918:
             return 'normal'
2919:
          else if row['TimePeriod'] >= 0.1025170087814331 and row['TimeInterval'] >= 0.00024616718292235 and row['PP\ CAN\ ID\ 50C'] >= 0.5 then:
2920:
              return 'normal'
          \textbf{else if } row['TimePeriod'] >= 0.1025170087814331 \ \ and \ \ row['TimeInterval'] >= 0.00024616718292235 \ \ and \ \ row['PP\_CAN\_ID\_52A'] >= 0.5 \ \textbf{then}:
2921:
2922:
             return 'normal
2923:
          else if row['TimePeriod'] >= 0.1025170087814331 and row['TimeInterval'] >= 0.00024616718292235 and row['P\_CAN\_ID\_50C'] >= 0.5 then:
2924:
              return 'normal'
2925:
          else if row['TimePeriod'] >= 0.1025170087814331 and row['P\_CAN\_ID\_52A'] >= 0.5 then:
2926:
             return 'normal
2927:
          else if row['TimePeriod'] >= 0.1025170087814331 and row['TimeInterval'] >= 0.00024616718292235 and row['P \ CAN \ ID \ 329'] >= 0.5 then:
2928:
              return 'normal'
2929:
          else if row['TimePeriod'] >= 0.1025170087814331 and row['D0'] < 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
2930:
             return 'normal'
2931:
          else if row['TimeInterval'] >= 0.00024616718292235 and row['D7'] < 0.5 and row['P\_CAN\_ID\_52A'] >= 0.5 then:
2932:
              return 'normal'
2933:
          else if row['D1'] < 0.5 and row['D3'] < 0.5 and row['P\_CAN\_ID\_58B'] >= 0.5 then:
2934:
             return 'normal
2935:
          else if row['D1'] < 0.5 and row['D4'] < 0.5 and row['PP\_CAN\_ID\_52A'] >= 0.5 then:
2936:
             return 'normal'
2937:
          else
2938:
             return 'attack'
2939: else if row['Arbitration\_ID'] == '7C4' then:
2940:
          if row['D6'] >= 169.5 and row['D7'] >= 169.5 and row['D7'] < 170.5 then:
2941:
             return 'normal'
2942:
2943:
2944:
          else if row['D6'] >= 169.5 and row['PP\_CAN\_ID\_7CC'] >= 0.5 then:
              return 'normal'
          else if row['D7'] >= 169.5 and row['D2'] < 10.5 and row['D2'] >= 9.5 then:
2945:
             return 'normal'
2946:
          else
2947:
              return 'attack'
2948: else if row['Arbitration\_ID'] == '7CC' then:
2949
          if row['D7'] >= 69.5 and row['D6'] >= 85.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
2950:
              return 'normal'
2951:
          else if row['D7'] >= 69.5 and row['D4'] >= 85.5 and row['PP\_CAN\_ID\_485'] >= 0.5 then:
2952:
              return 'normal'
2953:
          else if row['D7'] >= 69.5 and row['TimePeriod'] >= 0.0146578550338745 and row['P\_CAN\_ID\_53E'] >= 0.5 then:
2954:
             return 'normal'
2955:
          else if row['D7'] >= 69.5 and row['D5'] >= 133.5 and row['P\_CAN\_ID\_5CD'] >= 0.5 then:
2956:
2957:
          else if row['D7'] >= 69.5 and row['TimeInterval'] < 0.00023567676544185 and row['P\_CAN\_ID\_500'] >= 0.5 then:
2958:
             return 'normal'
2959:
          else if row['D7'] >= 69.5 and row['PP\_CAN\_ID\_386'] >= 0.5 and row['P\_CAN\_ID\_340'] >= 0.5 then:
2960:
2961:
          else if row['D7'] >= 133.5 and row['D4'] >= 7.5 and row['P\_CAN\_ID\_58B'] >= 0.5 then:
2962:
2963:
          else if row['D4'] >= 85.5 and row['D0'] >= 32.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
2964:
2965:
          else if row['D4'] >= 85.5 and row['P\_CAN\_ID\_386'] >= 0.5 and row['PP\_CAN\_ID\_329'] >= 0.5 then:
2966:
2967:
          else if row['D7'] >= 133.5 and row['P\_CAN\_ID\_50A'] >= 0.5 then:
2968:
             return 'normal'
2969:
          else if row['D7'] >= 133.5 and row['D4'] >= 85.5 and row['PP\_CAN\_ID\_484'] >= 0.5 then:
2970:
2971:
          else if row['D7'] >= 133.5 and row['TimeInterval'] >= 0.00024664402008055003 and row['PP\_CAN\_ID\_485'] >= 0.5 then:
```

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```
2972:
2973:
          else if row['D7'] >= 133.5 and row['P\_CAN\_ID\_340'] >= 0.5 and row['PP\_CAN\_ID\_140'] >= 0.5 then:
2974:
             return 'normal'
2975:
          else if row['D6'] >= 85.5 and row['D3'] < 17.5 and row['P\_CAN\_ID\_485'] >= 0.5 then:
2976:
2977:
          else if row['D5'] >= 133.5 and row['D2'] >= 52.5 and row['PP\_CAN\_ID\_389'] >= 0.5 then:
2978:
             return 'normal'
2979:
2980:
             return 'attack'
2981: else if row['Arbitration_ID'] == '7D0' then:
2982:
          if row['D5'] >= 169.5 and row['D5'] < 170.5 then:
2983:
             return 'normal'
2984:
          else if row['D6'] >= 169.5 and row['PP\_CAN\_ID\_7CC'] >= 0.5 then:
             return 'normal'
2985:
2986:
          else if row['D7'] >= 169.5 and row['D2'] < 10.5 and row['D2'] >= 9.5 then:
2987:
             return 'normal'
2988:
          else
2989:
             return 'attack'
2990: else if row['Arbitration ID'] == '7D4' then:
2991:
          if row['D6'] >= 169.0 and row['D7'] >= 169.5 and row['D7'] < 170.5 then:
2992:
             return 'normal'
2993:
          else if row['D6'] >= 169.5 and row['PP\_CAN\_ID\_7CC'] >= 0.5 then:
2994:
             return 'normal'
2995:
          else if row['D7'] >= 169.5 and row['D2'] < 10.5 and row['D2'] >= 9.5 then:
2996:
             return 'normal'
2997:
          else
2998:
             return 'attack'
2999: else if row['Arbitration ID'] == '7D8' then:
3000:
          if row['D2'] >= 38.5 and row['D3'] < 41.5 and row['D3'] >= 7.5 then:
3001:
             return 'normal'
3002:
          else if row['D6'] >= 169.5 and row['PP\_CAN\_ID\_7CC'] >= 0.5 then:
3003:
             return 'normal'
3004:
          else if row['D7'] >= 169.5 and row['D2'] < 10.5 and row['D2'] >= 9.5 then:
3005:
             return 'normal'
3006:
          else
3007:
             return 'attack'
3008: else if row['Arbitration\_ID'] == '7DC' then:
3009
          if row['D4'] >= 131.0 and row['D6'] >= 146.5 and row['TimePeriod'] >= 0.023155450820922803 then:
3010:
             return 'normal'
3011:
          else if row['D4'] >= 131.0 and row['D6'] >= 146.5 and row['D5'] >= 133.5 then:
3012:
              return 'normal'
3013:
          else if row['D6'] >= 169.5 and row['PP\_CAN\_ID\_7CC'] >= 0.5 then:
3014:
              return 'normal'
3015:
          else if row['D7'] >= 169.5 and row['D2'] < 10.5 and row['D2'] >= 9.5 then:
3016:
             return\ 'normal'
3017
          else
3018:
              return 'attack'
3019: else
3020:
          return 'attack'
```