

The Decision Makers Predicting Fatigue

By Nischal Dave, Gabe Kagan
Chester Moses, Renato Spacek

31 Mar 2019

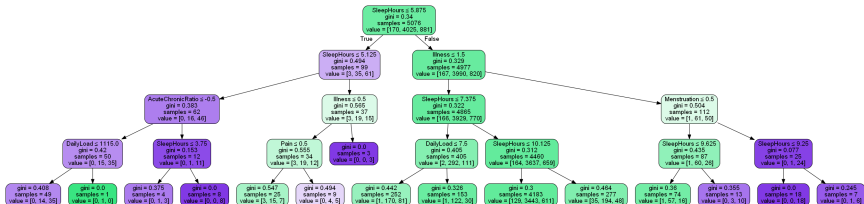
Dataset

SleepHours	Pain	Illness	Menstruation	USG	DailyLoad	AcuteChronicRatio	Fatigue
8.00	1	1	1	1.015	0.0	-1.0	0
9.00	0	0	0	1.015	705.0	1.0	0
9.00	0	0	0	1.015	0.0	-1.0	0
8.50	0	0	0	1.015	0.0	-1.0	0
8.25	0	0	0	1.015	315.0	-1.0	-1

Merge(Wellness, RPE) on (Date, PlayerID)

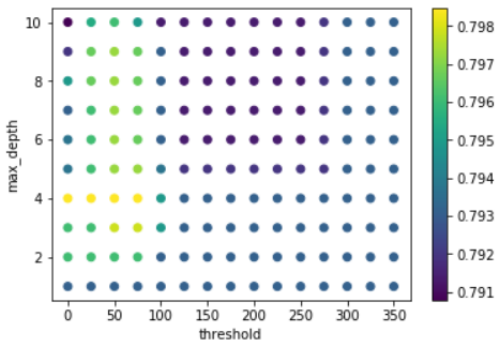
Fatigue → 7:-1, 6:-1, 5:0, 4:0, 3:0, 2:1, 1:1
 -1:'Fit', 0:'Average', 1:'Exhausted'

Decision Tree



Analysis

Split Ratio: Train : Val : Test = 0.60 : 0.20 : 0.20



Validation accuracy

Best accuracy when threshold = 0 and max_depth = 4

Accuracy Score = 0.80 (approx.)

Predictor Variables

- 1 SleepHours
- 2 Illness
- 3 AcuteChronicRatio
- 4 DailyLoad
- 5 Menstruation