

HackSki

Using Event Data to Enhance Analytic Models

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February 28, 2015



What is Event Data?

Records of an occurrence
Has a timestamp
Usually very granular

Types of Event Data?

Accidents
Construction
Rockslide
Avalanche
Road Closures

Upgrade Phone
Dropped Call
Make a Payment
Add a Line
Check Contract End Date

Bird-Kicked Finch
Bit Fatty
Lost Almond
Found Almond
Vet Visit

Bird Event Log

TimeStamp	Identifier	Event
1:10:11	Fatty	Bird Kicked Finch
1:10:11	Finch	Got Kicked
1:10:12	Finch	Bit Fatty
1:10:12	Fatty	Got Bit
2:10:10	Fatty	Found Almond
2:10:15	Finch	Stole Almond
2:10:15	Fatty	Lost Almond
2:10:17	Fatty	Bird Kicked Finch
2:10:17	Finch	Got Kicked
2:10:17	Finch	Lost Almond
2:10:20	Finch	Bit Fatty
2:10:20	Fatty	Got Bit
2:20:25	Tailless	Found Almond
5:30:15	Fatty	Vet Visit

Sequence of Events by Bird

Identifier	Sequence						
Fatty	Bird Kicked Finch	Got Bit	Found Almond	Lost Almond	Bird Kicked Finch	Got Bit	Vet Visit
Finch	Got Kicked	Bit Fatty	Stole Almond	Got Kicked	Lost Almond	Bit Fatty	
Tailless	Found Almond						

Analytic Data Set

		Event Frequencies						Event Sub-Frequencies			
								direct	indirect		
		Bird Kicked	Found	Stole	Bit	Got	Got	Bird Kicked	Got		
Bird	Finch	Almond	Almond	Fatty	Bit	Kicked	bird-s	Finch - Got Bit	Kicked- Bit Fatty	Etc...	Outcome
Fatty	2	1	0	0	2	0	1	2	0	...	1
Finch	0	0	1	2	0	2	4	0	2	...	0
Tailless	0	1	0	0	0	0	10	0	0	...	0

```
rpart(formula=Outcome~bird_kicked_finch+found_almond+stole_almond+
bit_fatty+got_bit+got_kicked+bird_s+bird_kicked_finch_got_bit+got_kicke
d_bit_fatty,
      data=bird_day.df,
      method="class")
```

Variables You Might Want to Include

Event Duration

Duration Between Events

Duration of Drive by Segments

Time of Day by Segments

Number of Events

Number of Events in Subsequence

Temperature

Is it Snowing? (Y/N)

Number of Accidents



Minds think with ideas, not information. No amount of data, bandwidth, or processing power can substitute for inspired thought.

— Clifford Stoll



Tailless

Fatty

Finch





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Questions?

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