

EMS Response Performance Analysis

Highlighting the importance of operational efficiency

By Jake McCaig



Goals & Objectives

01

Identify key
factors

02

Develop models

03

Provide
recommendations

DATA

51,000+ Rows
56 Features

7 Categorical
Features



8 Temporal
Features

41 Numerical
Features

METHODOLOGY



01

CLEANING

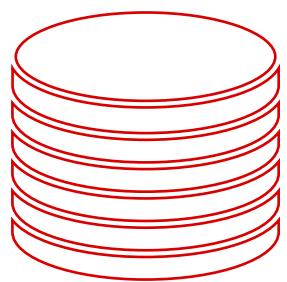
02

MODELING

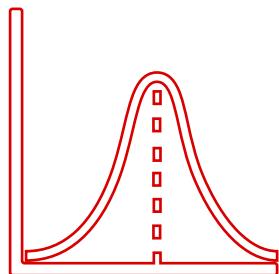
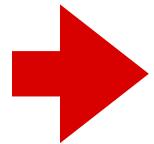
03

STATISTICAL
ANALYSIS

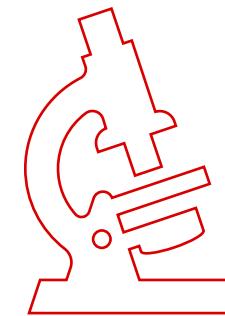
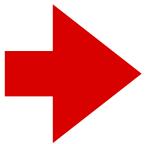
MODELING



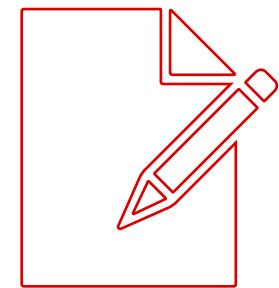
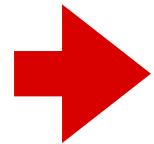
DATA



MODEL



EVALUATION



DECISIONS

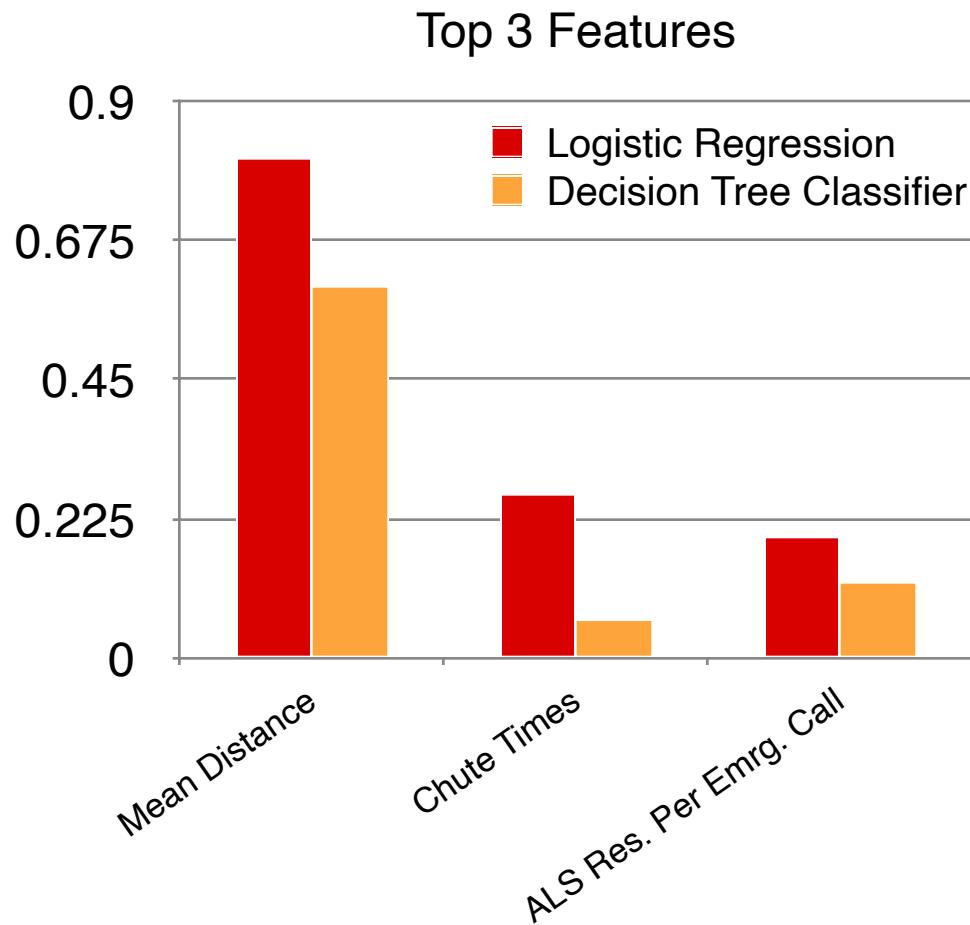
PERFORMANCE



CONFUSION MATRIX		
Actual Values	> 540	
	<= 540	> 540
> 540	2424	1736
<= 540	1841	4305

INSIGHTS

WHAT DID WE LEARN?



- 01 DISTANCE
- 02 CHUTE TIMES
- 03 RESOURCE AVAILABILITY

RECOMMENDATIONS



**Reduce
Travel
Distances**



**Speed Up
Departures**



**Optimize
Resource
Staffing**

NEXT STEPS

Analyze response route efficiency



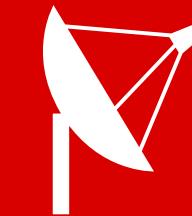
Refine model with more detailed data



Analyze regional and hospital-level performance



Expand feature set for more robust predictive power



THANK YOU

Questions?

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