



PREDICTING FOOD ALLERGIES IN CHILDREN

Prepared by Dara Estrada

MEET ME



Dara Estrada

Future Data Scientist

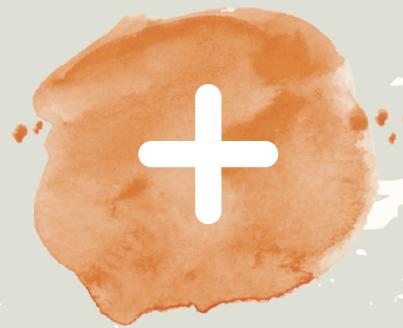
AGENDA



**Business
Understanding**



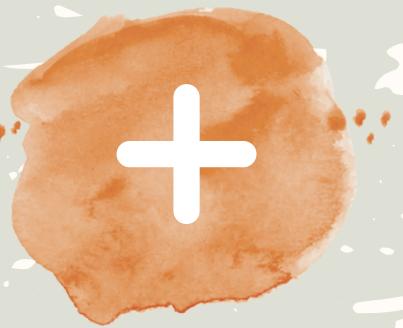
**Data
Understanding**



Modeling



Evaluation



Future

UNDERSTANDING

“

BETWEEN 1997 AND 2011, FOOD
ALLERGIES AMONG CHILDREN
INCREASED 50% AND NOW AFFECT 6
MILLION US CHILDREN

— KIDSWITHFOODALLERGIES.ORG

”



UNDERSTANDING



HOW MANY?



1 in 13 children



LITTLE DATA OVERALL

**INCREASE RESEARCH
FUNDING**

ACCURATE PREDICTIONS

WHY?



STAKEHOLDER



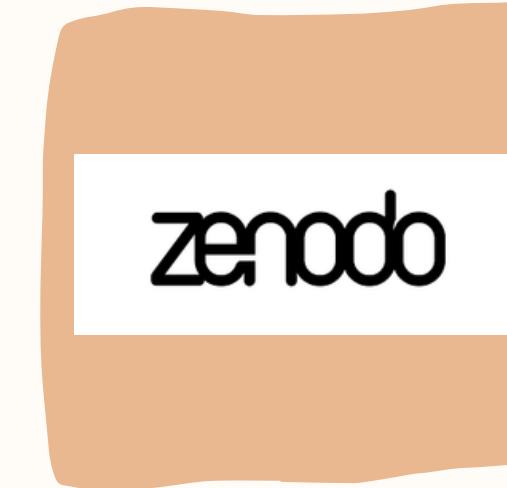
FOOD ALLERGY RESEARCH &
AWARENESS

PREDICTION IS THE NEXT STEP

DATA



~ AGE 1983-2012



~ 333,200 PATIENTS

~ 16 FOOD ALLERGIES

MODELING

SUPERVISED MACHINE LEARNING CLASSIFICATION

01. Dummy Classifier
02. Logistic Regression
03. Decision Tree Classifier



BASELINE MODEL TO LOGISTIC REGRESSION

	Dummy	Logistic Regression
Train Accuracy	50.0	to 75.45%
Test Accuracy	6.8	to 89.33%
Test Precision	96.75%	

FUTURE GOALS



HAVE ADULTS INCLUDED



**RERUN WITH PRE-
EXISTING CONDITIONS**



**USE LEVELS TO PREDICT
FUTURE LEVELS**



THANK YOU

