

Predicting Food item from Images

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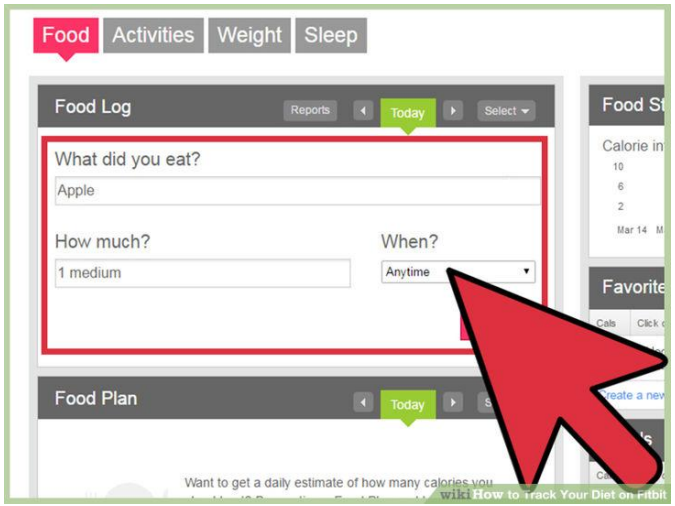
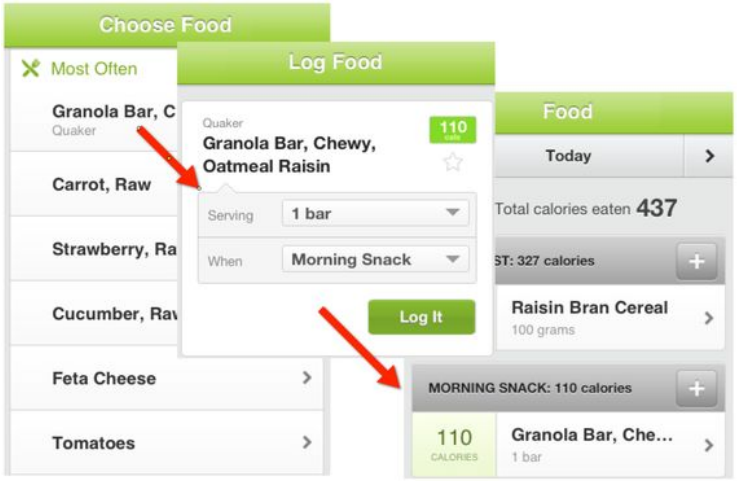
Having a hard time logging your food intake?





What if your phone does that for you?

Can we predict what the food item is from an image?

Can we predict the serving size of a meal from an image?


FRIES


PANCAKE


PIZZA


BUTTER CHICKEN

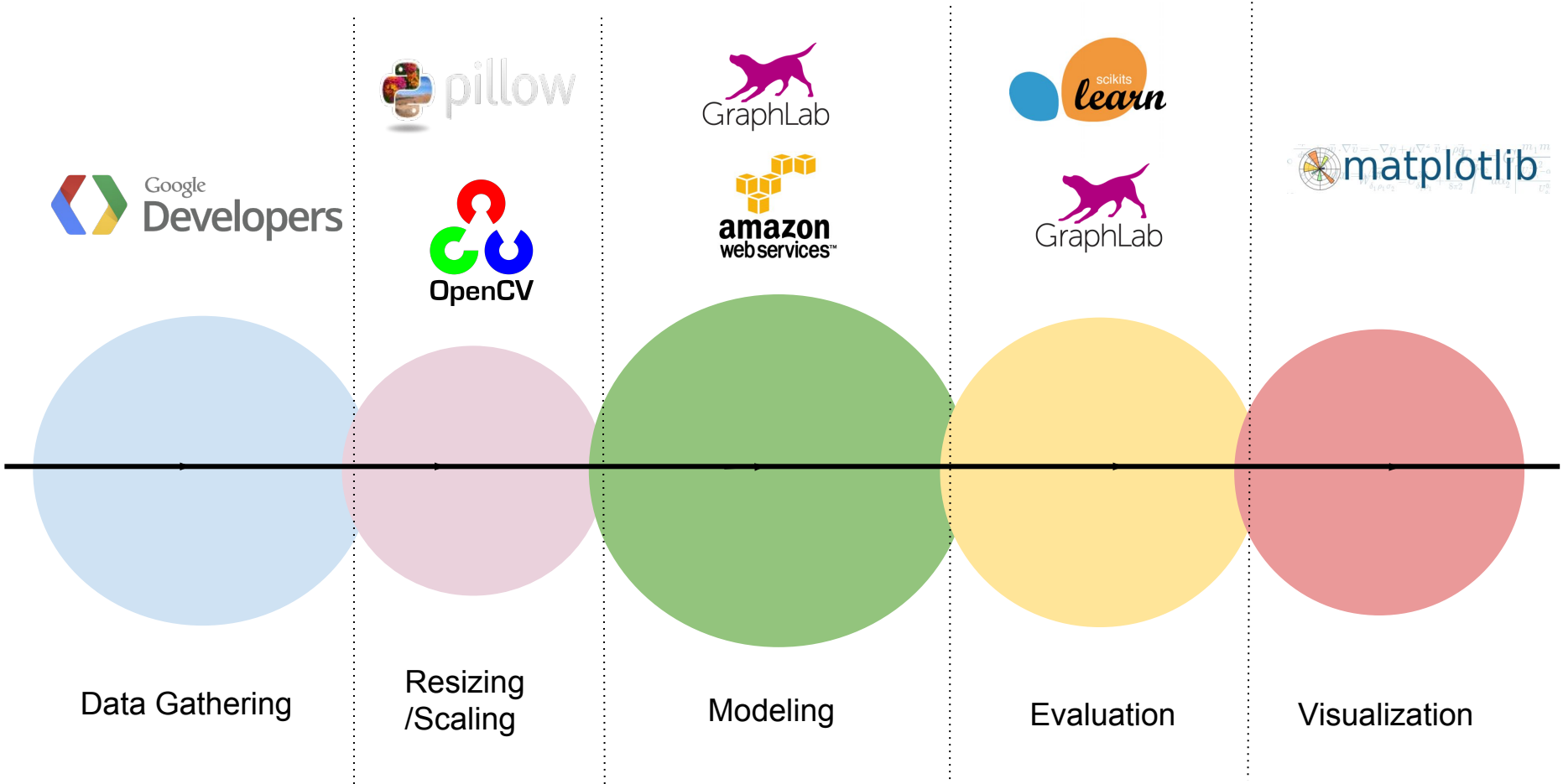

SPAGHETTI


SUSHI

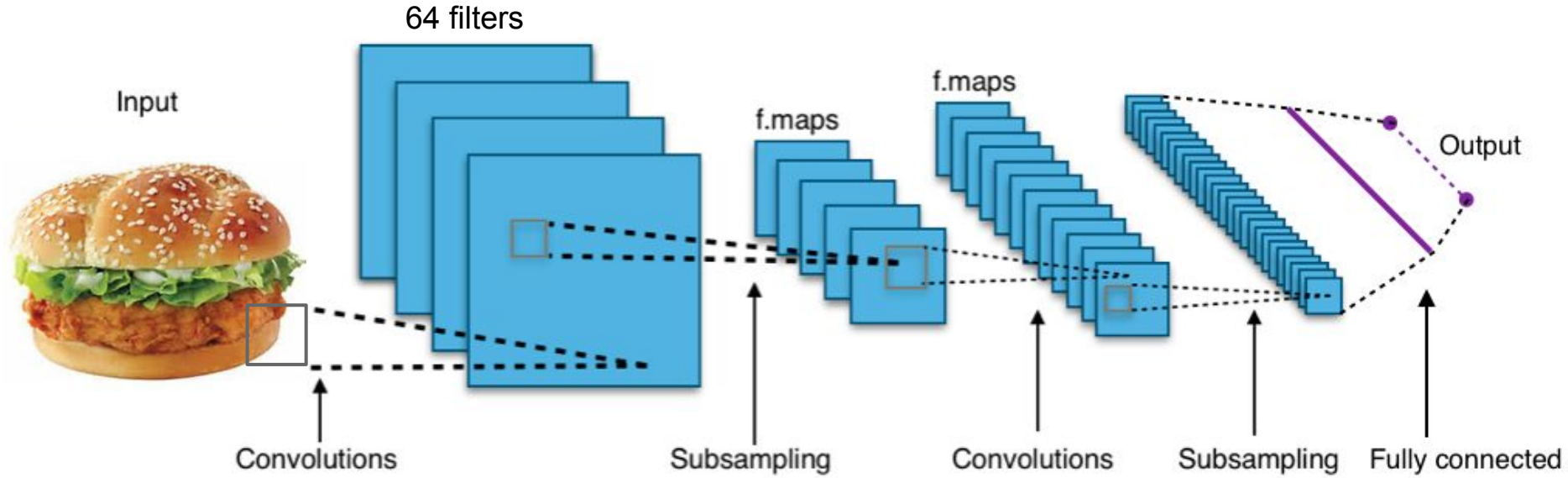

DONUT


BURGER

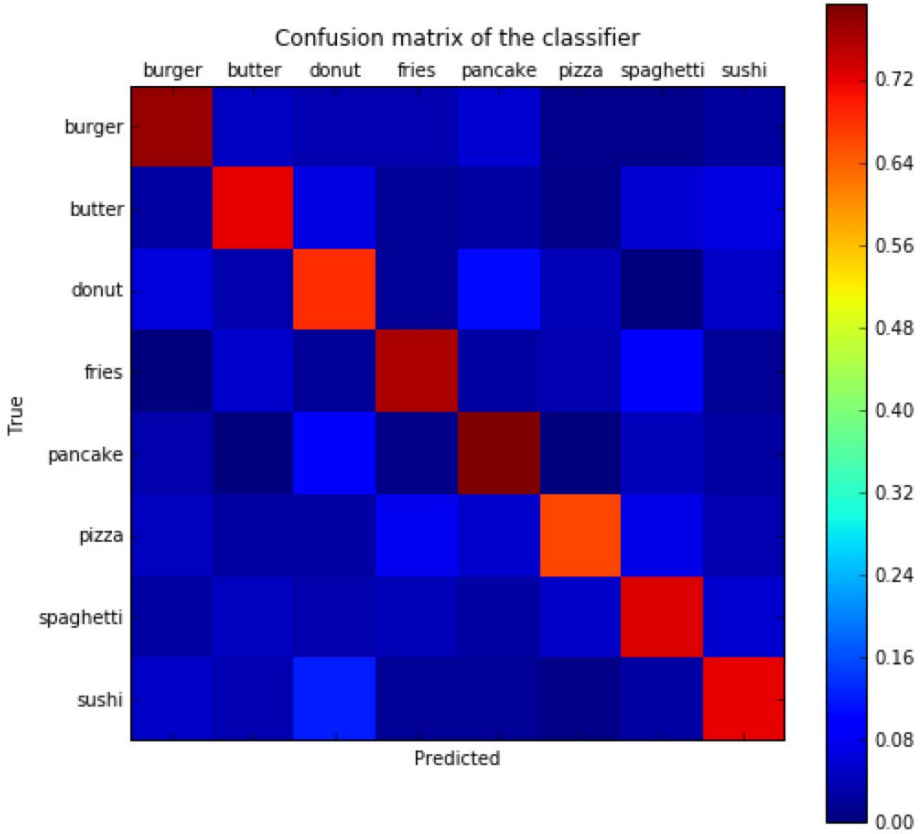
PROJECT PIPELINE



Convolutional Neural Network



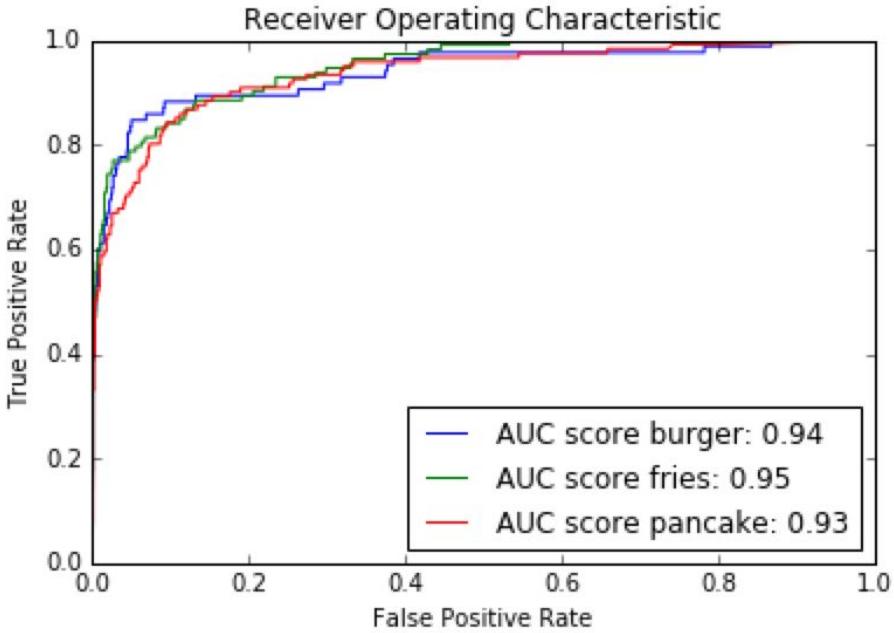
RESULTS



Validation accuracy	73.38%
Validation Recall	84.03%

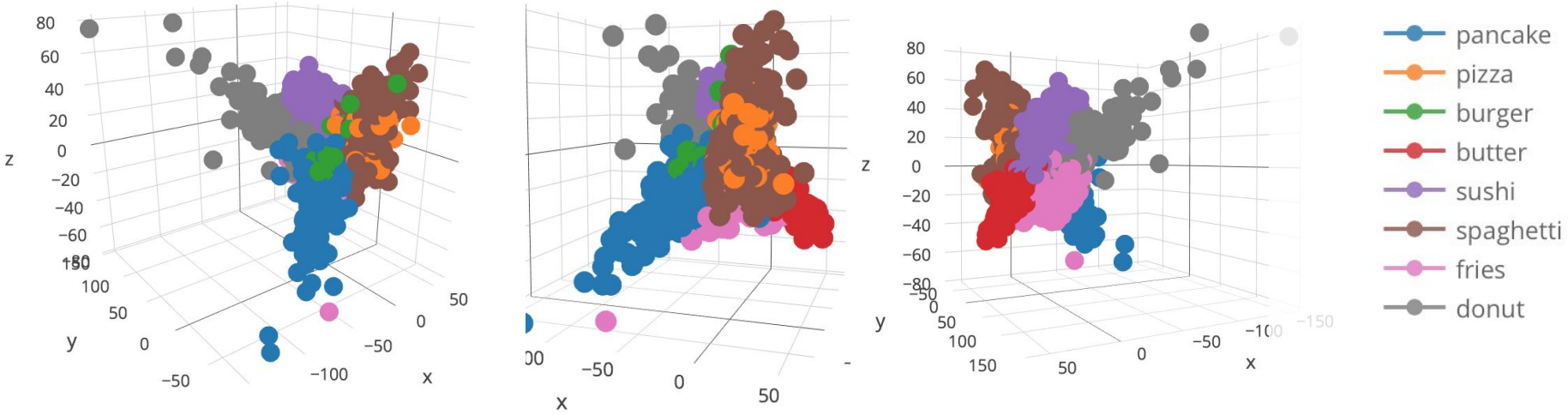
- Top 1 accuracy : 73.38%
- Top 2 accuracy : 84.13%
- Top 3 accuracy : 91.27%

MORE RESULTS



One vs All accuracy was higher.

3 Component PCA of extracted deep features



HITS

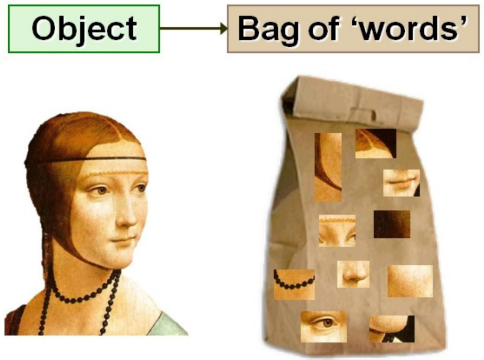
MISSES

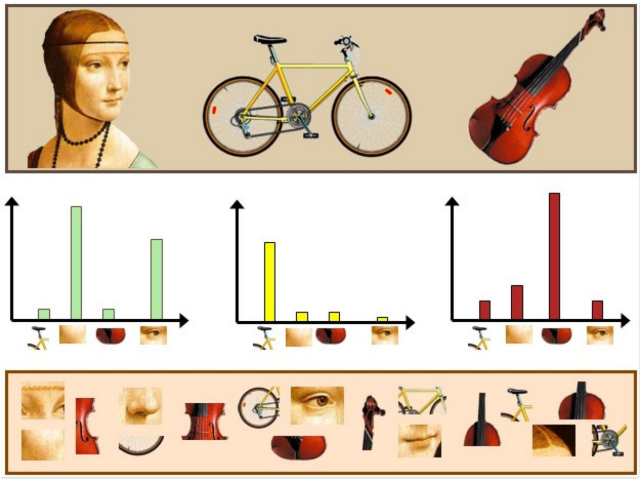
Fries or Spaghetti?

Pancake or Donut?

Future work

- Implemented a Bag of Feature model with 61.2% accuracy. Tune further and ensemble with CNN to improve prediction.





- Use prediction in conjunction with database for calorie prediction and nutritional information.

Source: https://gilscvblog.com/2013/08/23/bag-of-words-models-for-visual-

Question?

Thank you

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https://www.linkedin.com/in/swathisivadas
https://github.com/swathis07/Food-Nutrition-Predictor