

What's For Dinner Tonight?

Produce-2-Recipe: a Recipe-Finder
Using Images of Produce



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Project #5

Inconveniences in Recipe-Searching

Countless Search Results

The screenshot shows a Google search results page with the query "salad lamb eggplant". The results include several recipes from various websites:

- Grilled Lamb with Pickled Eggplant Salad and Herbed Yogurt Recipe ...**
https://www.foodandwine.com › Meat + Poultry › Lamb › Lamb Chop ▾
1 hr 45 min
How to Make It. Step 1 Marinate the lamb. In a baking dish, whisk the olive oil with the lemon juice, garlic, rosemary and thyme. Step 2 Make the yogurt sauce. Step 3 Make the salad. Light a grill or preheat a grill pan. In a bowl, toss the drained pickled eggplant with the cucumber, olives and arugula.
- Recipe for lamb and roasted eggplant salad - The Boston Globe**
https://www.bostonglobe.com/lifestyle/food/.../03/...lamb...eggplant-salad/.../story.html
Mar 24, 2015 - A few extra lamb chops and some salsa makes a fine salad with lemon-scented roasted eggplant. Not a bad way to wait for welcome spring.
- Grilled Lamb And Aubergine With Feta And Mint Salad | Main Course ...**
https://www.womanandhome.com › Recipes ▾
★★★★★ Rating: 4.6 - 15 votes
Feb 2, 2018 - Ingredients. 2 tablespoons olive oil. 2 tablespoons red wine vinegar. 2 tablespoons chopped oregano, sea salt and cracked black pepper. 550g lamb backstraps (boneless loin) 2 small eggplants (aubergines), sliced lengthways. 1½ cups mint leaves. ½ cup dill sprigs.
- Eggplant With Lamb, Tomato and Pine Nuts Recipe - NYT Cooking**
https://cooking.nytimes.com/.../1017426-eggplant-with-lamb-tomato-and-pine-nuts ▾
★★★★★ Rating: 5 - 969 votes - 2 hr
With its layers of golden eggplant, cinnamon-scented lamb, and sweet tomato sauce topped with melted cheese, this traditional Lebanese dish is made for ...

At the bottom of the search results, there are two additional snippets:

- Aug 8, 2007 - I could not let eggplant season go by without trying this tasty looking recipe for melitzanosalata or a Greek eggplant salad or dip similar to a ...
- Aug 8, 2017 - The key to this recipe is speed: the vegetables need little more than a quick toss in wok. For best results, use to use firm, unblemished, pale ...

Google

Eggplant
Tomato
Basil



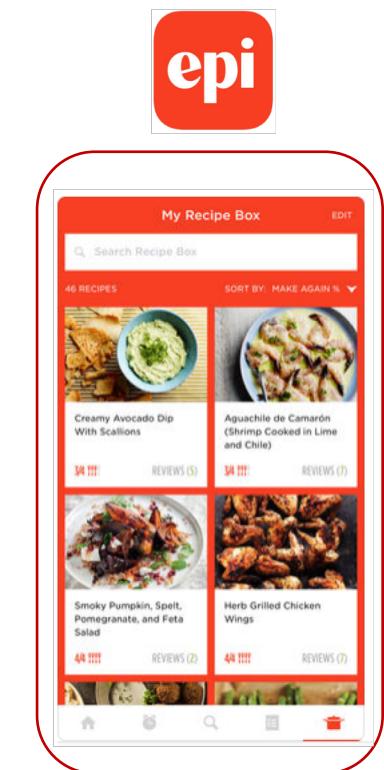
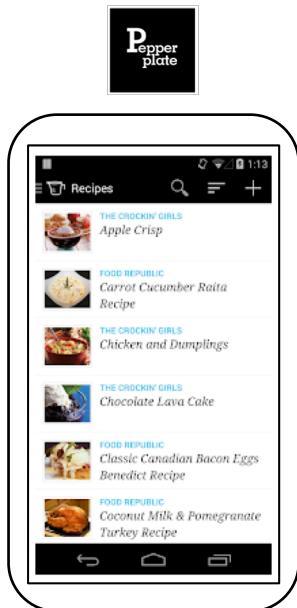
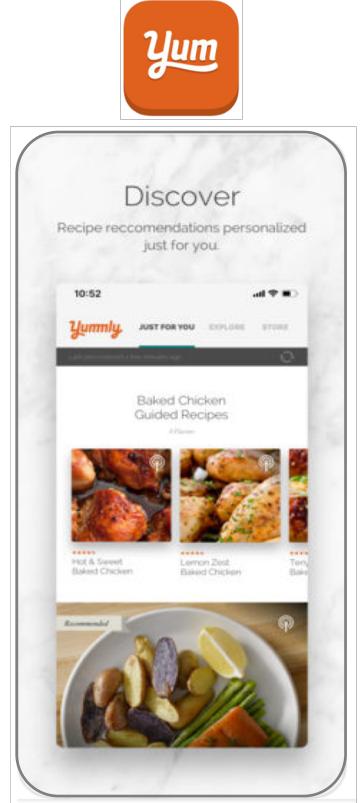
Leftover Produce

Typical Procedure

1. Visit each website
2. Repetitive check for
 - Ingredients?
 - Prep. Time? Method?
 - Nutrients? etc.
3. Select a recipe!

(~30-min later)

Other Options in Recipe-Searching?



Leftover Produce

Too many:
• Options
• Functionalities

Let's Build One *from Scratch!*

Personalized Criteria:

- Dish-types
- Keto-friendly

*image
recognition*



Broccoli Salad

epicurious

Greek Salad



Total: 2 hrs
Active: 2 hrs
Yield: 6 servings
Level: Beginner

Ingredients:

- 1 head romaine lettuce
- 4 whole ripe red tomatoes, each, then each cut into 8 wedges
- 1 whole (large) eggplant, cut into 1/4-inch thick chunks
- 1/2 whole red bell pepper, pitted, lengthwise, peeled, then each cut into 8 wedges
- 8 ounces crumbled feta cheese
- Fresh parsley
- 1/4 cup olive oil
- 2 tablespoons red wine vinegar
- 1 teaspoon salt
- 1 clove garlic
- Salt and freshly ground black pepper
- 1 whole lemon

Total: 50 min
Prep: 20 min
Inactive: 30 min
Yield: 6 servings
Level: Easy

Ingredients:

- 1 hothouse cucumber, unpeeled, seeded, and sliced 1/4-inch thick
- 1 red bell pepper, large-diced
- 1 yellow bell pepper, large-diced
- 1 pint cherry or grape tomatoes, halved
- 1/2 red onion, sliced in half-rounds
- 1/2 pound feta cheese, 1/2-inch diced (not crumbled)
- 1/2 cup calamata olives, pitted

For the vinaigrette:

- 2 cloves garlic, minced
- 1 teaspoon dried oregano
- 1/2 teaspoon Dijon mustard
- 1/4 cup good red wine vinegar
- 1 teaspoon kosher salt
- 1/2 teaspoon freshly ground black pepper
- 1/2 cup good olive oil

Directions:

- 1 Place the cucumber, peppers, tomatoes and red onion in a large bowl.
- 2 For the vinaigrette, whisk together the garlic, oregano, mustard, vinegar, salt and pepper in a small bowl. Still whisking, slowly add the olive oil to make an emulsion. Pour the vinaigrette over the vegetables. Add the feta and olives and toss lightly. Set aside for 30 minutes to allow the flavors to blend. Serve at room temperature.



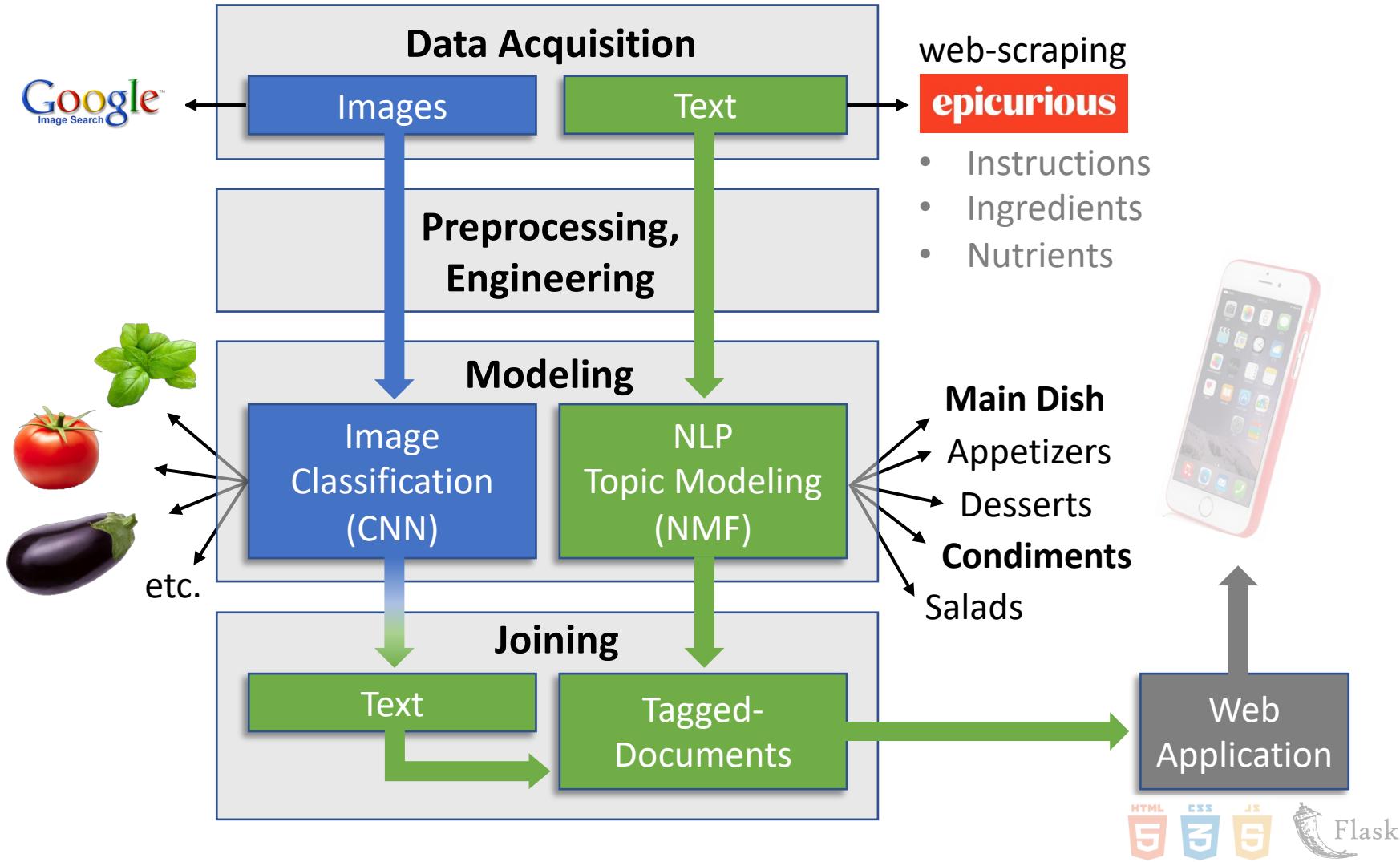
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Leftover Produce

Greek Salad

Project Design & Workflow

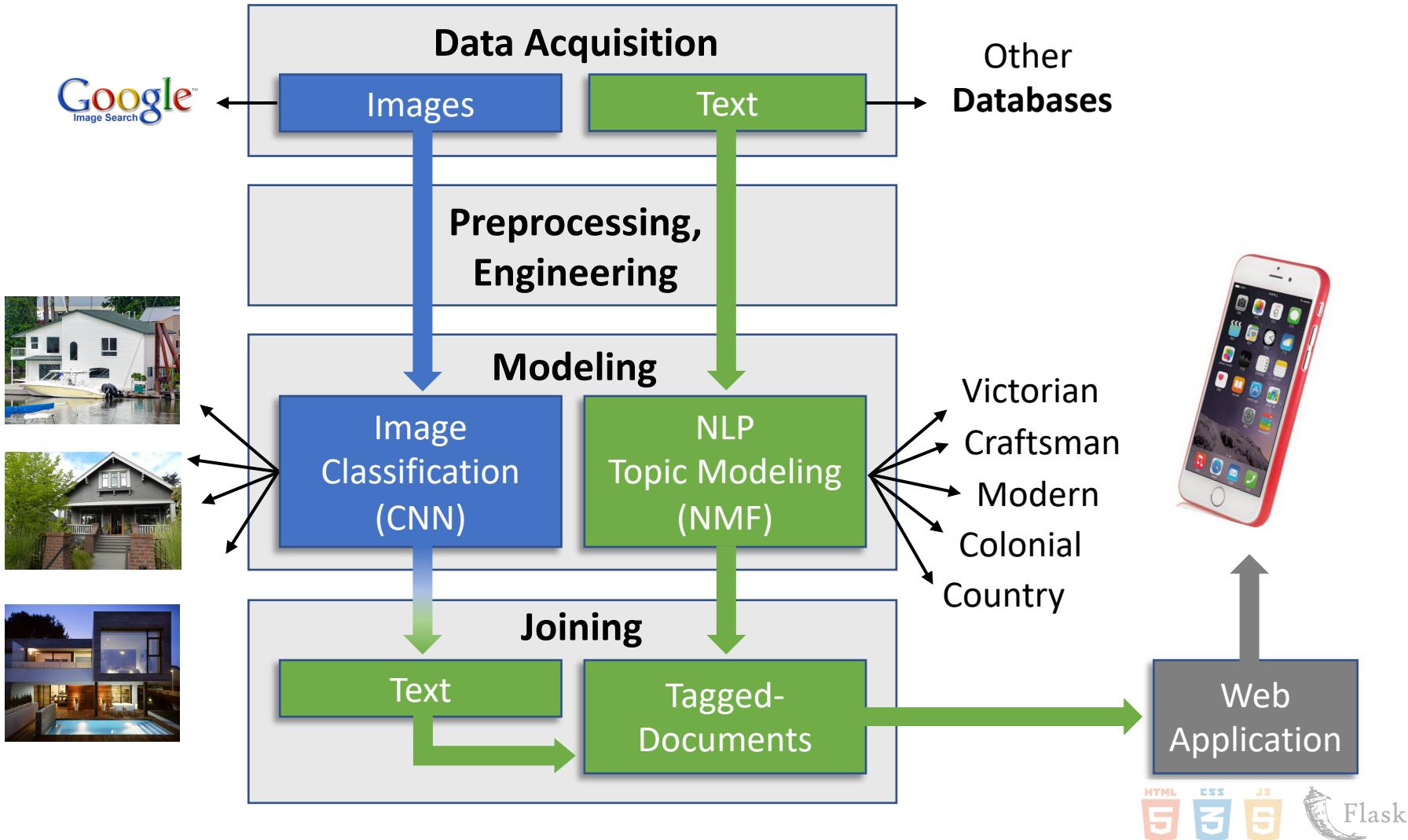


Eggplant Rolls



Eggplant Picante Sauce

Other Applications



Modern-Style Home



Craftman-Style Home



BeautifulSoup



Keras



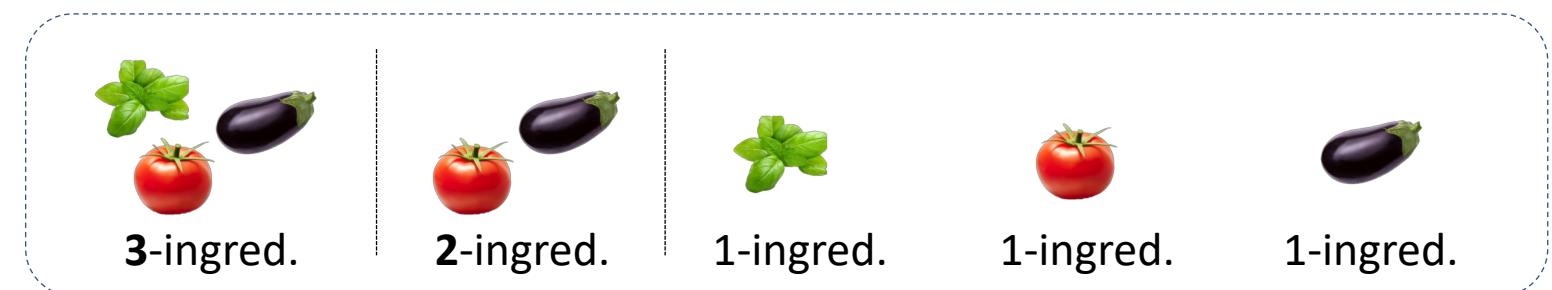
NLTK

Prototype Demo



Result & Future Work

- Classify 12 classes with ~95% accuracy
- NLP for recipe categorization
 - ✓ Dish-type (5 categories).
 - ✓ Overlapping ingredients



- Topic modeling improvement
- “Real-time” video detection
- Larger database

Dessert?



coming soon!!!

Picante Sauce

Sometimes...

*"If you can't find an answer anywhere...
...make it up!"*

~Anonymous

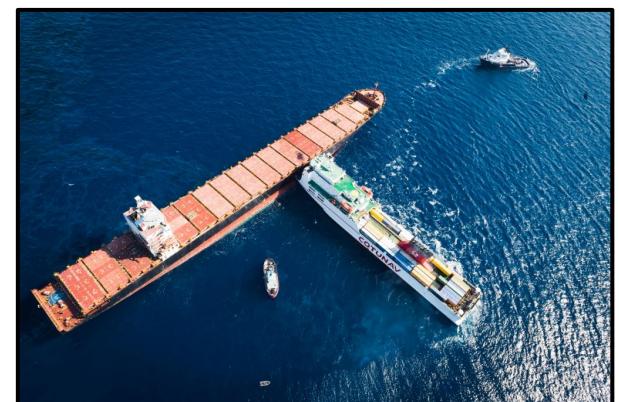
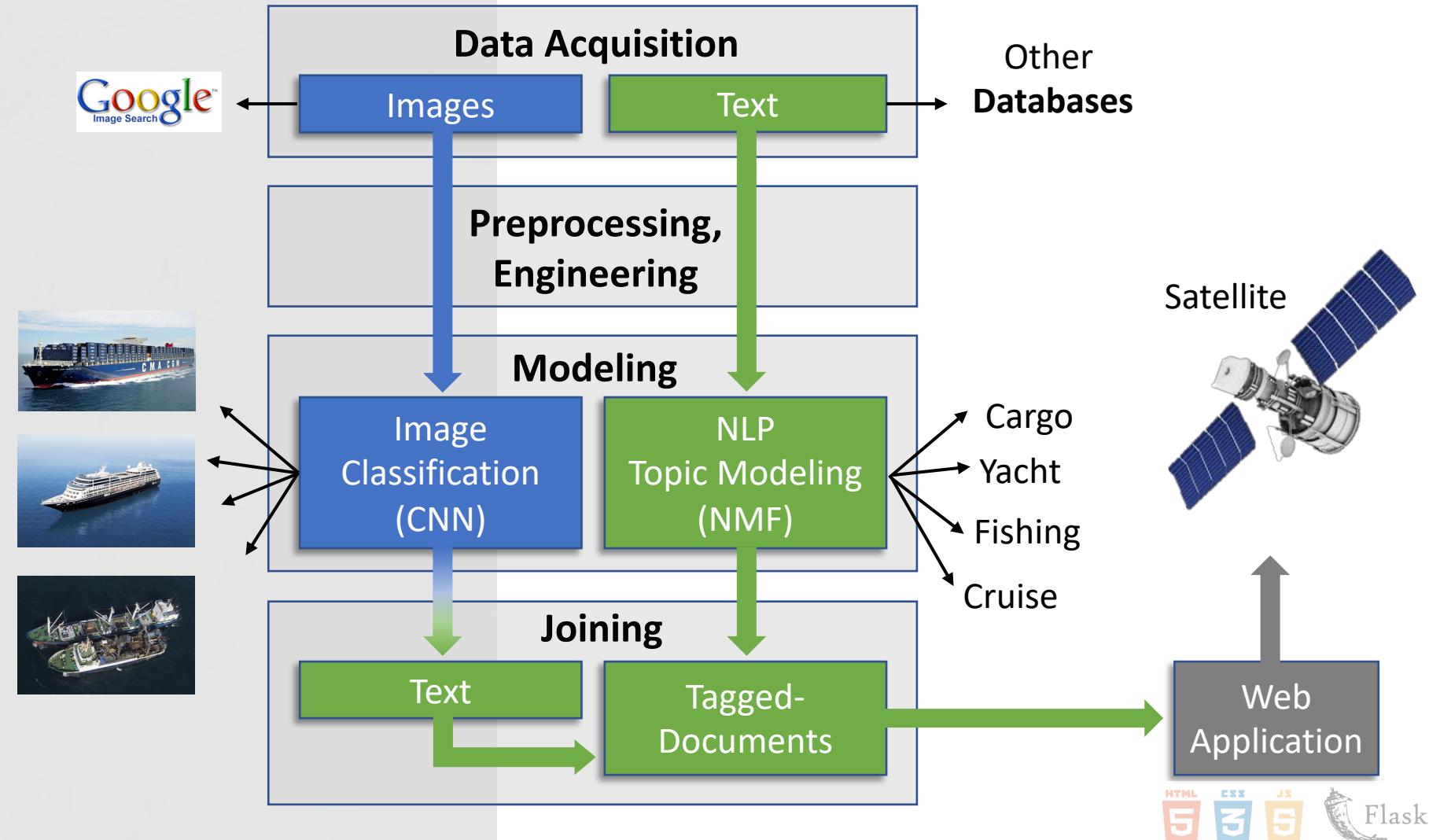
Produce-2-Recipe

Jhonsen Djajamuliadi

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Other Applications



API

BeautifulSoup



Keras

TensorFlow

NETK