TDI CAPSTONE PROJECT

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PROBLEM: BACKGROUND

Prevent health problems: Eat healthier

Prevent waste: Feed people, not landfills

SOLUTION: PRODUCE|RECIPE

Take / upload produce images

Get recipe suggestions

DEMO

THANK YOU

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BACKUP SLIDES

APPROACH / TECHNOLOGIES

1) Data Ingestion	• Obtained images of produce for training (Kaggle, Google Images API)
2) Data Normalization	• Performed image augmentation, over/under sampling, etc. (Pandas, Matplotlib, OpenCV)
3) Model Building	• Utilized transfer learning with pretrained CNN model (Tensorflow/Keras)
4) Scraping / Parsing	• Scraped recipes off common search engines (Selenium, Beautifulsoup)
5) Presentation	• Built user interface to present options/results to user (Streamlit)

CHALLENGES

- Translating, integrating conceptual ideas into cohesive design
- Data cleaning, balancing classes
- Training time / accuracy of model
- Scraping dynamically changing websites
- Parsing recipe sites which do not follow any standards
  (future improvement: generic parser)
- Identifying multiple ingredients in single image
  (future improvement: YOLO model)
- Saving user selections / favorites
  (future improvement: database for users / recipes)