

4/23

- Meet at **4:45** for final huddle / presentation ✓
- Organization repo
  - Need ReadMe's
    - Dataset: Google Drive URLs in readme?
- Final presentation runthrough ✓
  - Notes: 12 min => get under 10

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- Final presentation runthrough **4/23 @ 10:00 AM**
- Hands Off: Noon 4/23
- ?Idea: Refactor repo -> organization with repos of the following
  - ~~Python notebooks~~
  - ~~App~~
  - ~~Python code of models (translated from .pynb)~~
- ?Practice presentation runthrough
- Slide Delegation::
  - Dylan:
    1. Intro
    2. Problem Statement
    3. Saved Time With Our Solution
    4. Field Observations
  - Jordi:
    6. Live Demo,
    7. Metrics to Success
  - David:
    8. Models Selection
    9. Challenges Faced
  - Samuel:
    10. Future Application (Hybrid Approach)
    11. Contribution Roadmap
- 12. Questions?
- 13. Appendix

- ?Last minute tasks / edits

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- Presentation refined (**10-12 MINUTES**):
  - Demo (START WITH THE DEMO)
  - ~8 slides:
    - Objective/Problem Statement
      - None of the walmarts available have an automatic fruit checkout
    - Key metrics
    - Scope

- Background (collected pictures from walmart)
  - Model(s)
    - metrics of each, pros/cons
  - Future: How walmart can implement it at a bigger scale
  
  - .pynb =>
    - Place in .py files
    - Functions
    - Doc strings
      - """
  
  - Function name:
  - Argos:
  - return:
  - """
- 
- Separate branch with python notebooks
- Separate repo/ Google Drive with dataset
- 
- **Tasks:**
  - Jordi:
    - Final attempt on rt\_Detr\_v2
    - Research: React Native w/ ONNX runtime (JavaScript)
      - Figma => App Design
    - Else: Expand on David Code (Swift)
  - Dylan:
    - Presentation
    - Finalized Docs
  - David:
    - Refine model
    - Push to GitHub
  - Samuel:
    - Refine model
    - Annotate Images
    - Collect more data

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- **Notes from Divya:**
  - Stick to a coding convention: [PEP8](#)
  - Application not necessary, but impressive (Arad)
  - What is the scope of the project (clearly defined)?
    - Detection
    - Next steps: weight scale to detect quantity x price
- **Presentation Slides:**

- Dylan business expertise =>
  - Intro, scope, design details
  - 3 models side by side
  - In depth on the model we chose
    - "We chose this model because x"
    - Relevant parts of the code (preprocessing, eval, testing)
  - **DEMO**
  - Repository structure / division of labor (who did what)
  - Dylan's & Samuel's Analysis of saved time, customer's per hour, saved clicks, etc.
  - Next steps / closing remarks
- TODO: convert Python notebooks into Python code space
- 
- **Updates**
  - Jordi: reading RT\_DETR\_v2 docs -> show model metrics NEXT meeting
  - Dylan: ...
  - Samuel: revised yolo model, tested on own photos
    - Self-checkout photos
  - David: top 5 result model real-time with high confidence
    - side-photos
- Assumption (for our problem statement): the camera is near the produce in the self-checkout area
  - Next steps: implement a model from the overhead camera
- Separate branches -> Avoiding merge conflicts (Main protection)
- Kanban board (projects tab of the repo)
- **Revised tasks:**
  - Jordi:
    - Finish RT\_DETR\_v2 model & test performance
    - Research React Native compatibility with ONNX runtime model deployment, else work with David's app
      - Mockup for mobile app: Figma
  - Dylan
    - Revise document paper (who is doing what)
    - Guidelines.txt [PEP8](#)
  - Samuel
    - Refine model
    - Take more data samples
  - David
    - Refine model
    - Mobile app?

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- Documentation
  - [Bagged\\_fruit\\_veggies\\_dataset](#)
  - Research (huggingface docs):
    - [RT\\_DETR\\_V2](#) - jordi
    - MODEL\_2 - dylan
    - MODEL\_3 - samuel
    - MODEL\_4 - david
- Tasks
  - Research individual models
  - Take fruit samples (aim for 100 pictures per 1-3 fruit/veggies per bag)

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- First meeting
  - Last week tasks:
    - Research YOLO models
    - [Paper research](#)
    - Setup [GitHub repository](#)
    - Start initial documentation
  - This weeks tasks:
    - Researching more models → python notebook
    - Data collection
  - Brainstorm: taking sample data
    - Criterion (data collection):
      - We each are assigned 2 fruits/veggies to take pictures of
      - Bagged produce at various angles
        - Clearly visible (2 pictures)
        - Angles and wide lens (10 pictures)
        - Difficult to see (2 pictures, challenge for model)
        - Repeat this for 1-3 fruits/veggies?
    - Annotating and drawing boxes:
      - Free software to label and draw boxes?

	Fruit/Veggie	Clearly Visible(20x)	Angles (50x)	Difficult (20x)
Samuel	Apples	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Samuel	Bell Pepper	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Dylan	Banana	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dylan	Yellow/Orange Pepper	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dylan	Tomato	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
David	Cucumber	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
David	Broccoli	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Jordi	Avocado	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Jordi	Limes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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- Data augmentation Library
  - [Albumentations](#)
- **\*\*Github expectations:**
  1. Data prep (cleaning)
  2. Data visualization
  3. Model training, inference, evaluation (for each model)
  - Python Notebook(s)
  - Pushing, pulling, committing, version control, merge conflicts, branches
    - How we interact with each other in the code space
- **Final Presentation Wed, Apr 23**
  - “Tell your story”
  - Design details (1-3)
  - Demo
  - Labeling Data (drawing bounding boxes)
    - Good vector databases / tools?
  - We can attempt our bag experiment and note the results on each model
- **Presentation / Demo**
  - **Base:** running on python notebook
  - **Mid:** Web application (upload image)
  - **High:** Phone application (take picture with camera)
  - **Samuel Demo Idea:** side bar side time analysis of

- Someone using our model (saved time)
  - Someone looking up the fruit manually
  - fluidity, customer wait time
- Dylan **Demo Idea:** Financial overview
- customers per hour, revenue, etc.

