Food Waste Estimation Hackathon

Group 4:
Yuvraj
Cristina
Gamei

Datasets **Curation**

Baseline dataset

- Forms base structure
- Images with metadata such as **file path, ingredient name and quantity**

Hugging Face dataset

- German → English using custom mapping
- Schema aligned to match Dataset 1
- Merged and converted to unified **Voxel51-compatible dataset**

New Data Collection

- New photos named: fooditem<weight>
- **Parsing and field generation:** ingredient_name, return_quantity
- **Final dataset aligned with Dataset 1 and merged**

Dataset Link: https://drive.google.com/drive/folders/18TMxpcAUJWQovhR-L9kDbhhRBuFtYZUz?usp=drive_link

Training Process

1. **Initial training**
2. **Data augmentation**
3. **Label processing**
4. **Model architecture**

Outcomes

- Recognise items accurately
- Handle variations in food presentation
- Better nutritional inference from visual data

Predictions

- **Image augmentation**
- **Changed embeddings to CLIP**
- **Duplications detection**
- **German → English**

```
Starting training...
Epoch [1/30], Loss: 0.4772
Epoch [2/30], Loss: 0.4738
Epoch [3/30], Loss: 0.4739
Epoch [4/30], Loss: 0.4736
Epoch [5/30], Loss: 0.4740
Epoch [6/30], Loss: 0.4737
Epoch [7/30], Loss: 0.4737
Epoch [8/30], Loss: 0.4733
Epoch [9/30], Loss: 0.4739
```

Key **Takeaways**

Consistently collecting quality data is extremely difficult

Do bigger models equate to better performance?