A.I. - Almond Intelligence

Colin Hartigan and Eric Bennett

The Failure of Humane AI

- Their “Prediction”: 15 grams of protein => 60 almonds

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cududa on Nov 9, 2023 | parent | context | favorite | on: Humane AI Pin

I counted 14 almonds in the video. It said there were 15 grams of protein in the almonds. Almonds have about a quarter gram of protein each.

Also, you can't view the total eclipse in either locations it stated.

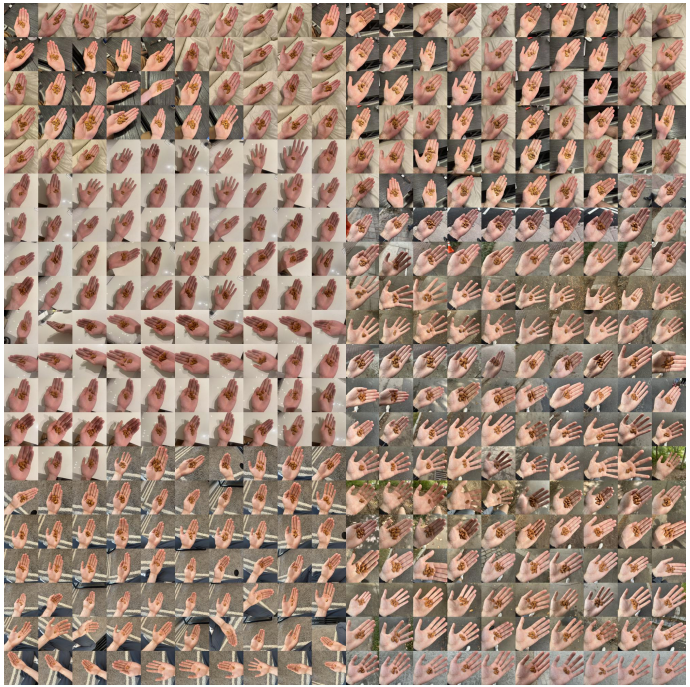
papa_bear on Nov 9, 2023 | next [–]

Yeah that stood out to me, would need ~60 almonds to have that much protein.

A screen would be useful for showing the details of how it misestimated the almond count, and let you adjust them.

A.I. (Almond Intelligence)

- **Our Model's Prediction**:13.94 almonds = 3.9 grams of protein
- THE TRUTH: 14 almonds!



*⅓ of our final labelled dataset^

- We hand-annotated 1,220 images of hands holding almonds

The tool:

Almond Facts

0.35 servings per handful

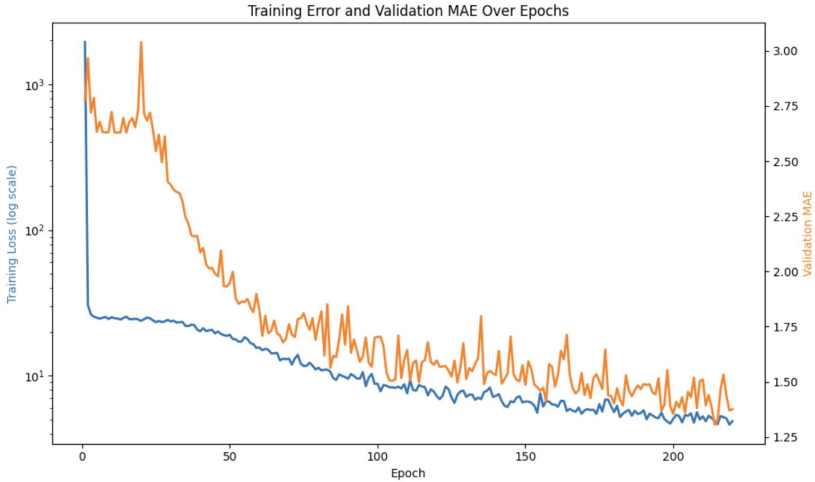
Amount per handful

Calories 56

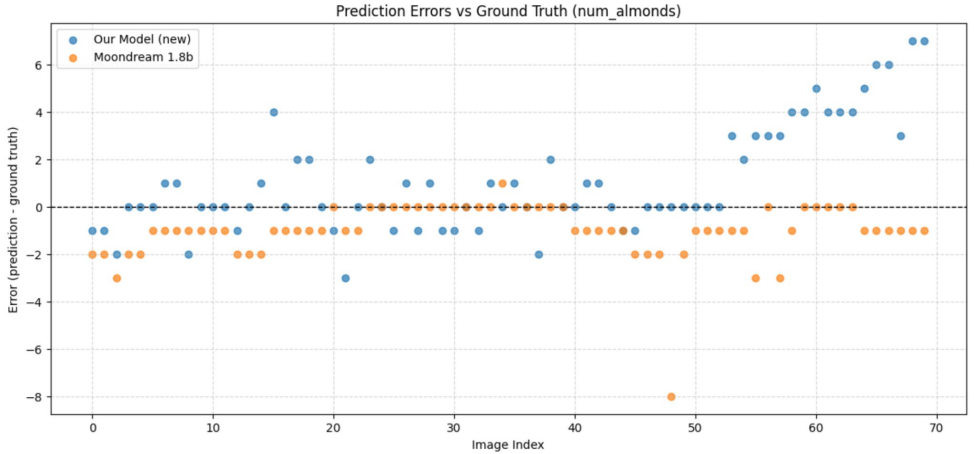
	% Daily Value*
Total Fat 4g	5%
Saturated Fat 0g	1%
Trans Fat 0g	
Cholesterol 0g	
Sodium 0mg	
Total Carbohydrate 2g	0%
Dietary Fiber 1g	3%
Total Sugars 0g	
Includes 0g Added Sugars	
Protein 2g	4%
Vitamin D 0mcg	0%
Calcium 31mg	2%
Iron 0mg	2%
Potassium 97mg	2%
Vitamin E 2mg	13%
Magnesium 21mg	5%

The Model

- MobileNetV3-Small architecture
  - Trained on 1,037 images
  - Validated on 183 images



- Lowest Mean Absolute Error on our Validation Set: 1.31

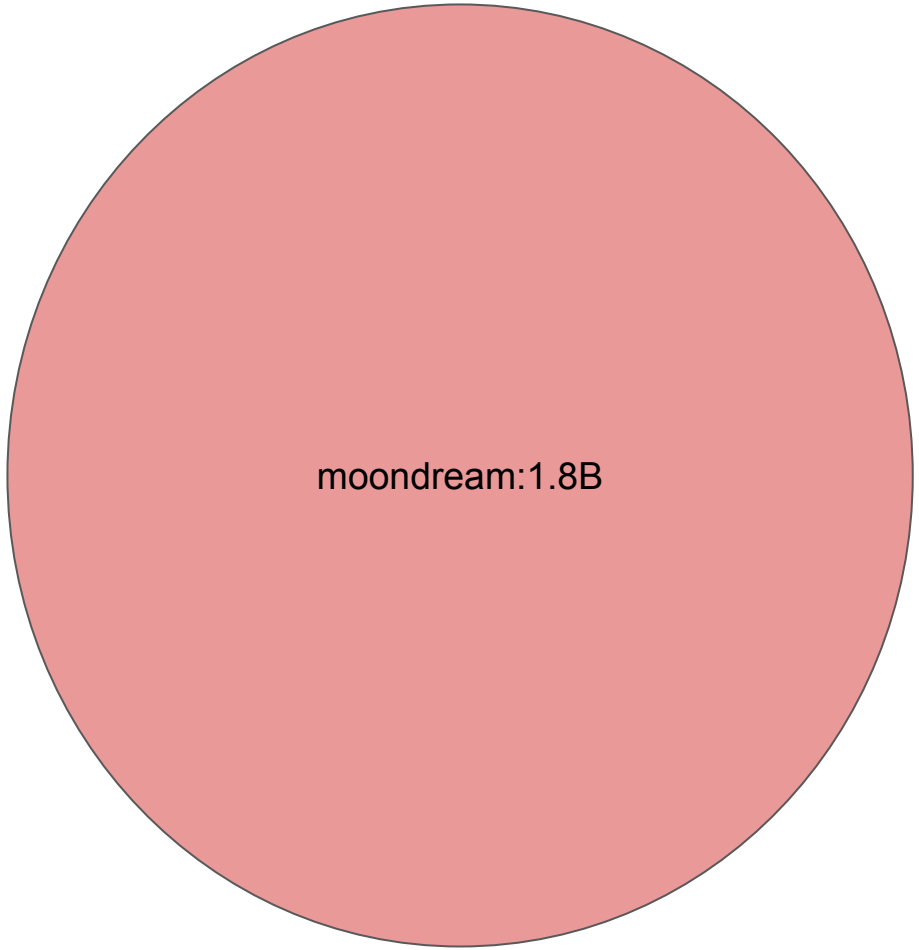


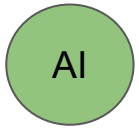
We're beating a 1.8B parameter VLM!

```
=== Performance Comparison on Test Set ===
moondream:1.8B - MAE: 1.01, Exact Match Accuracy: 32.86%
Our Model - MAE: 1.63,      Exact Match Accuracy: 34.29%
```

Conclusion

- We’re punching well above our weight!
- Just because LLMs and VLMs exist doesn’t mean we should ignore the efficiency gains of smaller models.





*we beat a VLM 236x larger than our model->