# pic2kcal: End-to-End Calorie Estimation From Pictures of Food

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Table 1: Results per 100g. Note multitask learning improves performance.

| | relative error | L1 of g / 100g | | |
|---|---|---|---|---|
| **kcal** | | **carbohydrates** | **fat** | **protein** |
| baseline | 0.464 | 10.5g | 4.5g | 3.1g |
| ours (kcal only) | 0.361 | — | — | — |
| ours (w/ macros) | 0.352 | 7.9g | 4.1g | 2.7g |
| ours (w/ macros+ings) | 0.328 | 7.1g | 3.9g | 2.5g |

## Abstract

*We estimate kcal directly from a picture. It good.*

## 1. Motivation and Related Work

There's some other papers like [1]–[3].

## 2. Results

## References

[1] M. Chokr and S. Elbassuoni, "Calories Prediction from Food Images," in *Proceedings of the Thirty-First AAAI Conference on Artificial Intelligence*, 2017, pp. 4664–4669 [Online]. Available: http://dl.acm.org/citation.cfm?id=3297863.3297871

[2] T. Ege and K. Yanai, "Image-Based Food Calorie Estimation Using Knowledge on Food Categories, Ingredients and Cooking Directions," in *Proceedings of the on Thematic Workshops of ACM Multimedia 2017*, 2017, pp. 367–375 [Online]. Available: http://doi.acm.org/10.1145/3126686.3126742

[3] A. Romero, X. Giro-i-Nieto, M. Drozdzal, and A. Salvador, "Inverse Cooking: Recipe Generation from Food Images," Dec. 2018 [Online]. Available: https://arxiv.org/abs/1812.06164v2