

Image-based Food Classification and Volume Estimation for Dietary Assessment

Pooja Dhumal, Payal Gaurkhede, Kimaya Kumbharkar, Pradnya Salunkhe,
Prof. Uzmamasrat Shaikh

Trinity College of Engineering and Research, Pune, India

Abstract: *The past few years, there has been significant progress in the recognition of food images. The work by Viswanath C, et al. proposed a method to classify images of Indian food by using a Convolutional neural networks (CNNs) model based on Google Inception-V3. In this instance, a convolution layer that can produce its own convolution kernel was used to convolve with the input layer and produce the tensor outputs. A model centered on estimating the number of calories in the food item by using only its image as input was put out by Hemraj Raikwar, et al. [6]. An autonomous food identification system that can identify various Indian foods was proposed by Patanjali C, et al [9]. The suggested food identification system is designed to be able to categorize Indian food items using both SVM and KNN, two separate classification methods.*

Keywords: Indian food, Convolutional Neural Network, Machine Learning, Google Inception V-3, convolution kernel, SVM KNN

REFERENCES

- [1]. David J. Attokaren, Ian G. Fernandes, A. Sriram, Y.V. Srinivasa Murthy, and Shashidhar G. Koolagudi, "Food Classification from Images Using Convolutional Neural Networks", 2017.
- [2]. Bappaditya Mandal, N. B. Puhan and Avijit Verma, "Deep Convolutional Generative Adversarial Network Based Food Recognition Using Partially Labeled Data", 2018.
- [3]. Heng Zhao, Kim-Hui Yap, Alex C. Kot, Lingyu Duan, Ngai-Man Cheung, "Few-shot and Many-shot Fusion Learning in Mobile Visual Food Recognition", 2018.
- [4]. Rajayogi J R Department of CSE, Manjunath G Department of CSE, Shobha G Department of CSE, "Indian Food Image Classification with Transfer Learning", 2019
- [5]. Md Tohidul Islam, B.M. Nafiz Karim Siddique, Sagidur Rahman, askeed Jabid "Food Image Classification with Convolutional Neural Network", 2018