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Transforming Nutrition Awareness with Nutrifit

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Abstract: *This paper aims to explore emerging technological advancements in the field of nutrition and health management. Nutri-Fit, a web-based application, exemplifies this trend by providing real-time nutritional analysis of food images and videos. As visual food content becomes increasingly popular across social media platforms, users often lack awareness of the nutritional value of the dishes they encounter. Nutri-Fit addresses this gap using advanced computer vision algorithms to automatically detect ingredients in uploaded food content and assess their nutritional profiles. The system evaluates key aspects such as calorie count, macronutrient composition, and overall nutritional balance, delivering comprehensive health assessments to users. It makes use of KNN and YOLO v5 to detect the ingredients. Furthermore, Nutri-Fit offers personalized feedback and visually engaging nutritional breakdowns, empowering individuals to make informed dietary choices aligned with their health goals. Use of LLM to get the desired recipes. The application also integrates a personalized chatbot that enables users to modify traditional recipes into healthier versions, enhancing the overall meal planning experience.*

Keywords: NutriFit, Macronutrient composition, Dietary goals, Personalized chatbot, Computer vision in nutrition

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