AI-powered Nutrition Analyzer for Fitness Enthusiasts

LITERATURE SURVEY

INTRODUCTION:

AI algorithms may help better understand and predict the complex and non-linear interactions between nutrition-related data and health outcomes, particularly when large amounts of data need to be structured and integrated, such as in metabolomics. AI-based approaches, including image recognition, may also improve dietary assessment by maximizing efficiency and addressing systematic and random errors associated with self-reported measurements of dietary intakes.

AUTHORS:

1. McCarthy J., Minsky M., Rochester N., Shannon C.E. A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence.
2. Yasaka K., Abe O. Deep learning and artificial intelligence in radiology: Current applications and future directions.
3. Johnson K.W., Torres Soto J., Glicksberg B.S., Shameer K., Miotto R., Ali M., Ashley E., Dudley J.T. Artificial intelligence in cardiology.

PROPOSALS:

JOHN McCARTHY:

"The study is to proceed on the basis of the conjecture that every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it".

MARVIN MINSKY:

"If a creature can answer a question about a hypothetical experiment, without actually performing that experiment, then the answer must have been obtained from some submachine inside the creature…Seen through this pair of encoding and decoding channels, the internal submachine acts like the environment, and so it has the character of a 'model.'"

REASEARCH PAPER :

[Faster R-CNN towards real-time object detection with region proposal networks](#), *Ren et al.*, NeurIPS 2015, cited by 19915

[Neural Machine Translation by Jointly Learning to Align and Translate](#), Bahdanau et al., ICLR 2015, cited by 16866

[Human-level control through deep reinforcement learning](#), *Mnih et al.*, Nature 2015, cited by 13615