When AI Becomes a Chef: Leveraging LLMs to Generate and Promote Healthy Recipes on Online News Platforms

Media Futures

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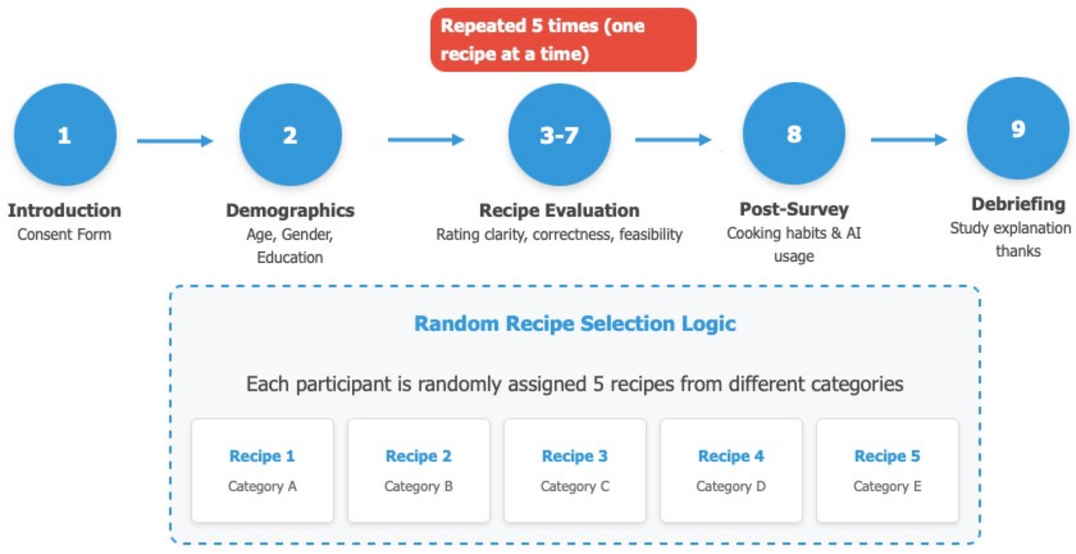
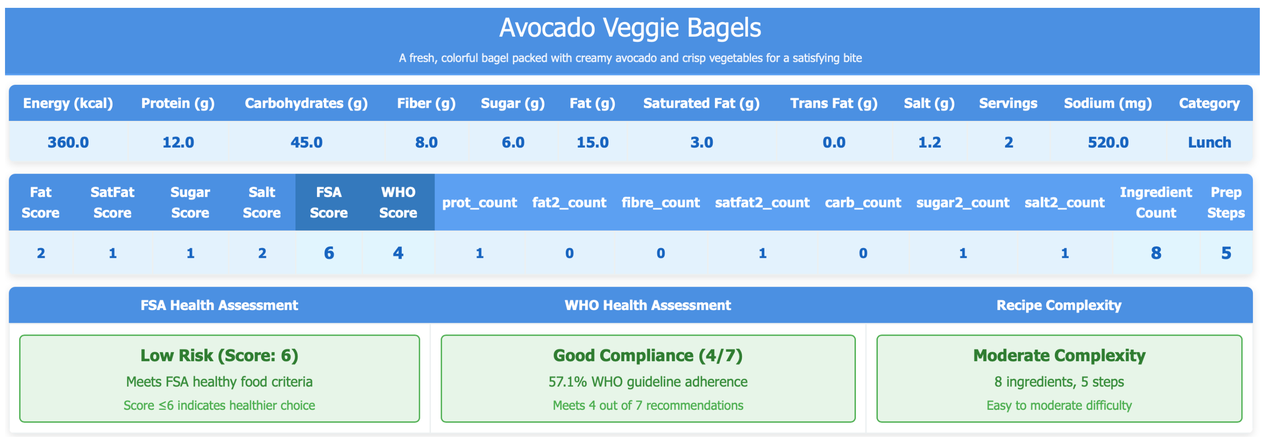
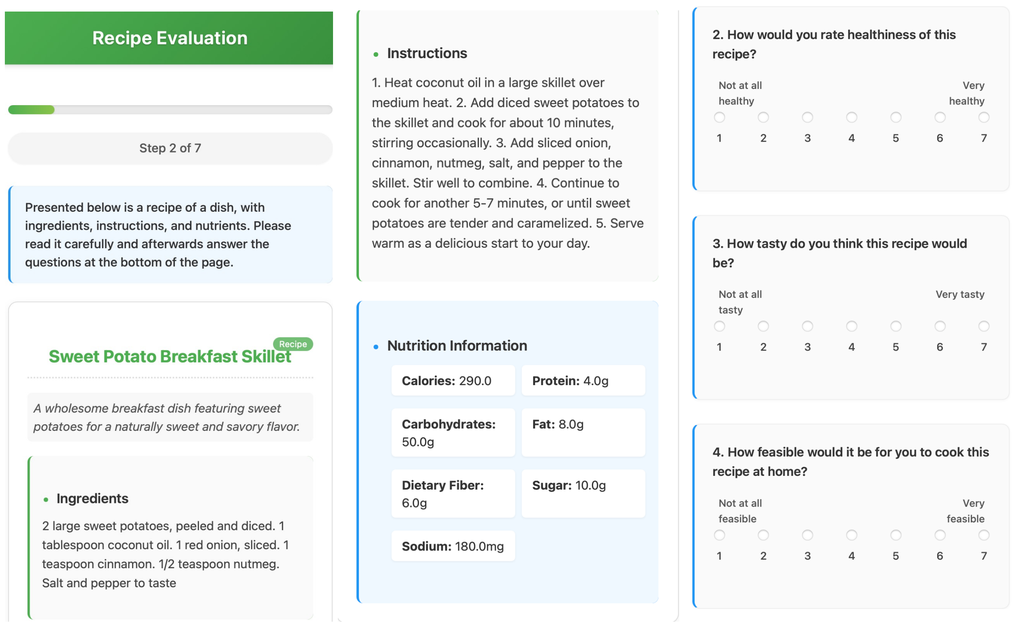
1. Motivation

Online news is not only about politics. While recent events may give that impression, research shows that **a significant share of online media consumption relates to lifestyle topics such as health, food, and wellbeing** (Newman et al., 2024). As audiences increasingly seek practical and personalized information, **AI is transforming news production**, enabling automated story generation, content curation, and even recipe creation. One emerging use case is the use of **generative AI to produce healthy recipes**, offering a potential tool for **promoting better dietary choices and public health awareness through media**. In this research, we examine **to what extent AI can generate useful and nutritious recipes that support healthier decision-making.**



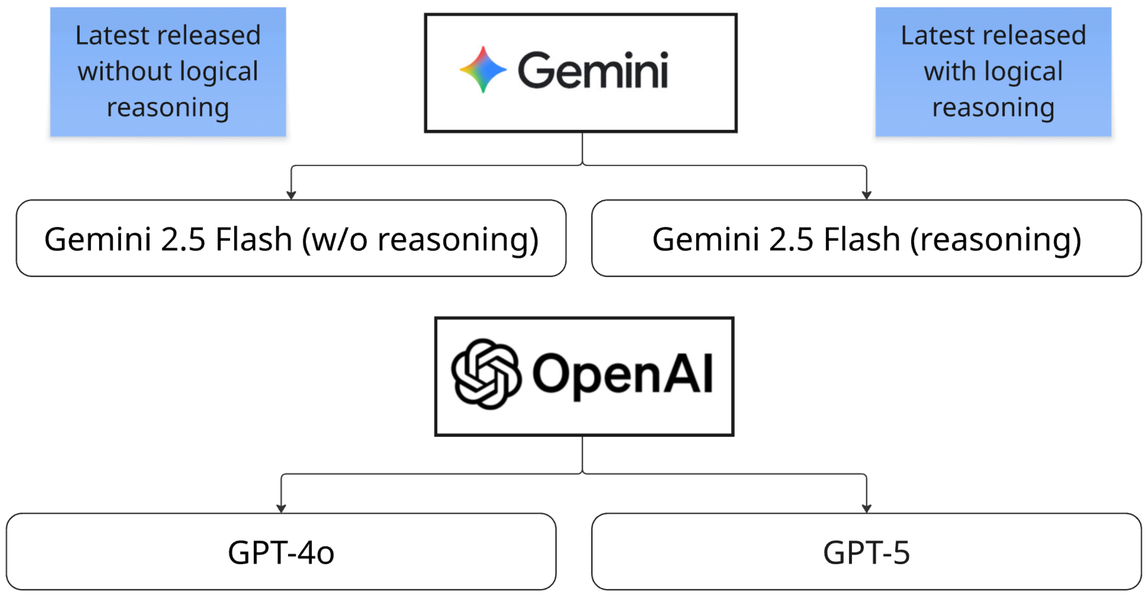




2. Research Questions

RQ1: How healthy are LLM-generated recipes according to established nutritional standards (FSA and WHO)?
RQ2: How do users perceive the LLM-generated recipes in terms of feasibility and correctness?
RQ3: Do different LLMs produce recipes with significantly different complexity, healthiness, feasibility and correctness?

3. Research Design



This study examines the potential of Large Language Models (LLMs) to automatically generate healthy recipes suitable for promotion within lifestyle sections of online news platforms. To assess the **usefulness** of generated recipes, we evaluate:

1. **Complexity**, measured by the number of ingredients and preparation steps.
2. **Healthiness**, assessed using established FSA and WHO nutritional scoring systems.
3. **Feasibility and correctness**, evaluated through a controlled user study.

Building upon our previous work published in *Nature Food* (Angelsen et al., 2023) and presented at *ACM RecSys 2025* (El Majjodi et al., 2025), this study advances prior findings by (1) comparing multiple AI models, (2) analysing recipe complexity, and (3) conducting a large-scale user study on Prolific to explore the perceived visibility and trustworthiness of AI-generated recipes in greater depth.

References:

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