

Ethical Reflection on NutriTrack

NutriTrack is a personal project aimed at addressing SDG 2: Zero Hunger through predictive analytics and nutritional insights. As I continue to design its database schema and backend APIs, I recognize the ethical imperative of ensuring fairness, transparency, and user autonomy in the system.

Key Ethical AI Principles I'll Uphold:

Fairness and Inclusivity

- Ensure datasets represent diverse demographics, avoiding biases related to socio-economic status or geographic location.
- Apply fairness assessment tools (e.g., IBM AI Fairness 360) to monitor model behaviour across user segments.

Transparency and Explainability

- Incorporate interpretable models and provide clear explanations of predictions (e.g., nutrient deficiencies or crop health issues).
- Use open documentation to help users understand data sources, modelling decisions, and limitations.

Data Privacy and Security

- Integrate secure data handling protocols, including encryption and role-based access controls.
- Adhere to GDPR-like standards, even if users are outside those jurisdictions, respecting their digital rights.

Autonomy and Empowerment

- Design the UX to support informed decision-making, rather than nudging users toward algorithmic outputs.
- Allow users to opt out of data collection or personalize recommendation algorithms.

Continuous Monitoring and Accountability

- Create audit logs and feedback mechanisms for tracking model decisions and user concerns.
- Regularly update the system to reflect ethical standards and adapt to evolving societal needs.