

TAL 797 – Seminário

**04/12/2024**

### **ARTIFICIAL INTELLIGENCE IN THE FOOD SECTOR**

**Pós-graduando:** Camila Affonso Louzada

**Orientador:** Valéria Paula Rodrigues Minim

**Nível:** ( ) MS (x) DS

Artificial Intelligence (AI) is revolutionizing the food and beverage sector, making it possible to personalize offers, anticipate trends and optimize operations, while at the same time strengthening relationships with consumers. Therefore, studying the use of AI in the food sector is essential to understanding how these technologies can transform the production chain and the relationship between companies and consumers. AI offers tools to improve food safety, optimize logistics processes and enhance interaction with customers. Tools such as chatbots are widely used for efficient support, personalized suggestions and real-time responses, enhancing the customer experience. Recently, notable advances have emerged in the use of AI in food and public health: AI-generated images directly impact consumer perception, being employed as marketing tools that increase the visual appeal of products. These advances offer valuable insights into consumer psychology in a constantly evolving digital landscape. In public health, ML algorithms have achieved high accuracy in predicting antimicrobial resistance (AMR) in Salmonella isolates, with hit rates of over 95%. These models identify genomic patterns that make it possible to predict AMR phenotypes, contributing to more effective solutions to global challenges. Despite these innovations and applications, AI complements, but does not replace, the human role. Creativity, empathy and ethics are indispensable for the responsible use of these technologies, ensuring sustainable advances. Sensory tests carried out with real consumers remain crucial to validate the models developed by AI, ensuring that technological predictions are aligned with the human experience. Thus, AI and human participation must coexist to maximize benefits in the food sector.

#### **Referências bibliográficas:**

BENEFO, Edmund O.; RAMACHANDRAN, Padmini; PRADHAN, Abani K. Genome-based machine learning for predicting antimicrobial resistance in Salmonella isolated from chicken. **LWT**, v. 199, p. 116122, 2024.

CALIFANO, Giovanbattista; SPENCE, Charles. Assessing the visual appeal of real/AI-generated food images. **Food Quality and Preference**, v. 116, p. 105149, 2024.

ESMAEILY, Rezvan; RAZAVI, Mohammad Amin; RAZAVI, Seyed Hadi. A step forward in food science, technology and industry using artificial intelligence. **Trends in Food Science & Technology**, p. 104286, 2023.