

Basics of Machine Learning

1.1 The History and Tools of Machine Learning

Kendra Jackson

1. **Task:** Write a short case study on a topic and answer how machine learning is used in this environment, and what does it do that humans can't (or would be too time intensive)?
2. **Structure:**
 - a. Ensure you understand the problem
 - b. Research the topic and come up with points you would like to address
 - c. Write a structure that starts with defining the problem, the background in play, a general hypothesis on what has to be done, and a solution to the problem
 - d. Read over text and edit as required

Article: [Machine Learning and AI with Coca Cola for Product Innovation](#)

The Problem:

Coca-Cola desired to understand consumer preferences in order to innovate new products based on data-driven insights. The goal of their research and development department was to analyze copious amounts of data collected from self-service machines in order to identify potential new product opportunities from consumers.

Background:

On average, Coca-Cola products are consumed 1.9 billion times daily. Due to the high consumption amount of their products, Coca-Cola produces a large amount of data in which they use to make informed and strategic decisions. Coca-Cola was one of the first predominantly non-IT companies to adopt AI and big data. In this specific instance, Coca-Cola launched self-service soft drink fountains that collected data on drink choices of customers. These drink kiosks tracked drink choices and mix-and-match combinations customers made.

Hypothesis:

Through analyzing data received from self-service beverage kiosks, Coca-Cola can identify popular drink combinations and flavour profiles, with this information Coca-Cola can innovate new beverage products that are tailored to consumer tastes.

Solution:

With the copious amounts of data collected from self-service drink kiosks, Coca-Cola implemented AI and Big Data analytic technologies to process and analyze these extensive datasets. Insights gleaned from this data showed significant trends: customers were using the kiosks to create mix and match combinations. One of the most popular combinations was that of Sprite and cherry-flavoured drinks being mixed together. Since this combination was incredibly popular, it let Coca-Cola to make the data driven decision to launch a new product: Cherry Sprite.

Through employing Big Data, AI, and ML technology, Coca-Cola was able to analyze large volumes of data detailing customer interactions with their machines effectively and efficiently. This analyzation of data uncovered trends and preferences that would likely be too time-consuming and complex for a typical manual analysis. Since Coca-Cola chose to utilize a data-driven approach in their research and development sector, they accomplished product development and launching with reduced risks and failure rates.