

# NATURAL LANGUAGE GENERATION

# History

A brief history of Natural Language Generation (NLG); a branch of AI that generates human-like text or speech from data or unstructured information, mimicking the way we as humans communicate using language.

## 1960s

ELIZA



The first chatbot was created at MIT by Joseph Weizenbaum. ELIZA simulated conversation with users using pattern matching and canned responses.

"I had not realized that extremely short exposures to a relatively simple computer program could induce powerful delusional thinking in quite normal people."

—Joseph Weizenbaum



## 1990s

Forecast Generator (FoG)



A Forecast Generator (FoG) used by Environment Canada pioneered bilingual reporting by converting weather maps into forecast text (in both English & French).

## 2007

StatSheet

StatSheet\* used NLG to generate live reports for college basketball games, marking the first filed and approved patent in the field of NLG.

\*Now Automated Insights

## YAHOO! SPORTS

## 2012

Yahoo! Sports Fantasy Football

Yahoo! Sports Fantasy Football integrated Automated Insights' Wordsmith platform to generate personalized sports reports, previews, and recaps.



## 2013

IBM Watson

IBM Watson's first commercial application to assist in deciding treatment plans for lung cancer patients at Memorial Sloan Kettering Cancer Center in NYC.

## 2014

Eugene Goostman



'Eugene Goostman' fooled 33% of Turing test interrogators into believing it was a 13-year-old boy to become the first model to pass the Turing test.

## 2016

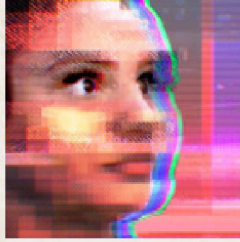
Data Viz Companies Integrate NLG

## + a b l e a u Wordsmith

Data Visualization platforms like Tableau, PowerBI, etc. adopt NLG technology Wordsmith (from Automated Insights) to help users surface insights.

## 2016

Tay



Tay was a chatbot developed by Microsoft to interact with users on Twitter (@TayandYou) and learn from their conversations. It became racist in under 24 hours.

## 2017

'Attention Is All You Need' Paper



Google's now infamous paper 'Attention Is All You Need' introduced the Transformer model paving the way for Large Language Models (that provide NLG) like ChatGPT, BERT, Bard and many others.

## 2018

OpenAI's GPT-1

## OpenAI

One of the earliest versions of a Generative Pre-trained Transformer (GPT) that laid the groundwork for subsequent, more advanced GPT models.

## 2021

Stochastic Parrots Paper

Titled: On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?



Emily Bender, Timnit Gebru, Angelina McMillan-Major and Shmargaret Shmitchell (and others unnamed due to Google's retaliation) were among the first AI Researchers to publish about the costs and risks associated with Large Language Models (LLMs).

Margaret Mitchell and Timnit Gebru were both fired from their jobs at Google because of the paper.

## 2022

OpenAI's ChatGPT

## ChatGPT

ChatGPT (LLM chatbot) launched and became the fastest-growing app to reach 100M active users within two months.

## 2023

Search Engine Integration

## Bing G

Bing & Google announce NLG integration (through LLM technology) into their search engines.