

# Practical session on Text Mining: from BERT to ChatGPT

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## **Skills and knowledge that you will acquire**

- Understand and use new NLP techniques (based on transformers neural network)
- Adapt transformers models to your needs
- Compare BERT-like models and ChatGPT-like models
- Use OpenAI (ChatGPT) API and adapt it to your context.

# How recent concepts of NLP could be used in Epidemiological surveillance ?



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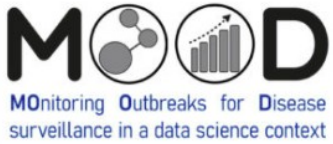


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## NLP for One Health

From BERT to ChatGPT

Speakers:

- Rémy DECOUPES - Research engineer UMR TETIS / INRAE
- Maguelonne TEISSEIRE - Prof. UMR TETIS / INRAE

### Chapter 1. BERT

"[Bidirectional Encoder Representations from Transformers - Devlin et al - 2018](#)" from Google Research is an open-source pre-trained Language Model. BERT implements the well known "[Attention is all you need - Vaswani et al - 2017](#)"

Bert-case was trained on:

- Wikipedia (2.5 Billions of tokens)
- Google books (0.8 Billions of tokens).

On two tasks:

- Self-masking
- Next sentence prediction

### 1.1 Introduction: Transformers

A python library to easily work with BERT-like models

co nlp\_pratical\_session\_ChatGPT.ipynb

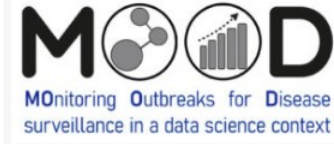


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### Chapter 2: ChatGPT

[ChatGPT](#) is an AI chatbot developed by OpenAI. ChatGPT uses a generative language model called GPT-3.5 without subscription and GPT-4 for 20€/month.

### 2.1 Requirements

As we are going to use ChatGPT through the [OpenAI API](#), participants need to create a account in order to obtain an API key: [here](#)

- Free access: 18\$ will be credited for a short period of time and it would not be renewed.
- Or add a payment method

Then let's begin with GPT3.5-turbo

```
[ ] # installation
!pip install openai
```

## Notebooks table of contents

### [Chapter 1: BERT: Google colab link](#)

```
1.1 Introduction  
1.2 NLP tasks with BERT  
1.3 Diving into the model representations  
1.4 Fine-tuning  
1.5 Text generation with BERT
```

### [Chapter 2: ChatGPT: Google colab link](#)

```
2.1 Requirements  
2.2 Text generation with ChatGPT  
2.3 Langchain  
2.4 Hallucination  
2.5 Paper-QA
```