

# General information

Course Title	Artificial Intelligence (AI) for Humanities: from Text Simplification to Automatic Humor Analysis (practical course)
Abstract	<p>This is an introductory course on artificial intelligence and natural language processing. Students will learn:</p> <ul style="list-style-type: none"><li>● how to do data analysis in Python;</li><li>● how to apply large pre-trained deep learning models, such as BLOOM, GPT-3, Google mT5, for new data and tasks, including text simplification, terminology extraction, and humor analysis;</li><li>● how to evaluate the results generated by AI;</li><li>● how to generate images based on textual prompts.</li></ul>
Calendar	<ul style="list-style-type: none"><li>● between 06/03 and 18/03 2023: 1st Virtual part / 8h</li><li>● 20-24/03 2023: On-site Intensive Course in Brest(physical mobility) / 24h</li><li>● between 01/04 and 06/06 2023: 2nd Virtual part / 20 h of</li></ul>

# Structure of the course

<p><b>Introductory phase (virtual) : 8h</b> 1h of presentation and opening of the course (synchronic) and 7h of individual practice (asynchronous)</p>	<ul style="list-style-type: none"><li>● introduction into Google Colab <a href="https://colab.research.google.com/">https://colab.research.google.com/</a></li><li>● various forms of data input/output, file formats (json, csv, txt, etc.)</li><li>● regular expressions <a href="https://docs.python.org/3/library/re.html">https://docs.python.org/3/library/re.html</a></li></ul> <p>The objective is to obtain prerequisites for basic data processing and basic text processing with regular expressions.</p>
<p><b>Presential phase (presential, in UBO, Brest): 24h</b> 20th march 2023-24th march 2023 (5 days)</p>	<p>The content of the course might be adapted according to the level of the group.</p> <ul style="list-style-type: none"><li>● introduction into natural language processing</li><li>● introduction into deep learning</li><li>● few shot learning by prompt tuning for natural language processing (BLOOM, GPT-3, etc.)</li><li>● image generation from textual prompts (type DALL-E)</li><li>● data analysis library Pandas</li><li>● non-neural approaches for natural language processing</li><li>● transformer architecture</li><li>● transfer learning</li><li>● evaluation metrics</li></ul> <p>The objective is to learn how to solve natural language tasks and how to evaluate the obtained results.</p>
<p><b>Group collaborative work (virtual): 20h</b> 18h of collaborative work (asynchronous) + 2h of restitution (synchronous)</p>	<p>Students will ask to do a collaborative projects on application of AI models to one of the following tasks (non-exhaustive list):</p> <ul style="list-style-type: none"><li>● automatic summarization</li><li>● machine translation</li><li>● terminology extraction and explanation</li><li>● text simplification</li><li>● wordplay detection</li><li>● wordplay interpretation</li></ul>