| Judicaël POUMAY Ph.D. in Artificial Intelligence | horizontal line

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| **ㅡ**About me | horizontal lineI have a **Ph.D. in Artificial Intelligence** specialized in **Natural Language Processing** and a **Master in Data Science.** I have worked for various companies **building into Production LLM-based Chatbots**, **Topic Modelling For Trend Analysis** and **produced research on Word Embeddings published in the 2nd best conference in NLP.**  I have experience with many programming languages starting out at the age of 11 with **C,C++** and **JAVA**, **HTML, CSS, PHP and Javascript** currently mostly working in **Python and C#**. Moreover, I am a **french native speaker** and an **advanced English speaker**. During my **Ph.D**., I also had the chance to sharpen my **public speaking skills** through **seminars, practical sessions, and theoretical lectures.** |
| **ㅡ**Freelance Clients | horizontal lineNeocognition / NLP EngineerFebruary 2023 - …I have developed and still maintain **LLM based Chatbots** for coaching and psychological therapy using **Python, LangChain** and the **OpenAI API**. Those Chatbots have been designed using an underlying **Finite-State Machine**. Designing these chatbots required **Complex Prompt Engineering** methods as well as **hallucination mitigations techniques**. Additionally, we are also doing research on the **explainability of LLM through statistical analysis**.Engemab.be / Web DeveloperAugust 2023 - …I have designed a website for Engemab using **WordPress, Divi, PhP, Javascript/Jquery, CSS** and **HTML**. HEAJ / AI ProfessorSeptember 2023 - …I **Teach AI** in video games and transmedia to bachelor and master students. Through my lectures I aim to **demystify Artificial Intelligence** and related concepts such as **Prompt Engineering** and **Ethics in AI**. I also Teach programming in **C#** for **AI Behavior in Games** with **Unity**. |
| **ㅡ**Jobs | horizontal lineHEC-Liège / Postdoc under Win4Spinoff GrantOctober 2023 - …Developed **stochastic models** for **Trend Analysis** using **LLMs** and **Topic Modelling** in **Python**. Using **MongoDB**, **Flask** and **Docker** I produced an **MVP** with an easy to use **web interface**. With **BeautifulSoup** and **Selenium** I crafted crawlers to retrieve web data to train my models. During this period I have also used other tools for research and production including **SQL, AWS EC2, PyTorch, Scipy, NLTK, Scipy, scikit-learnTensorFlow, spacy and HuggingFace models, Javascript, HTML, CSS.**KPMG & HEC-Liège / Ph.D. thesisOctober 2019 - September 2023, LiegePerformed Research in **NLP** including **LLM**, **Topic models, Word Embeddings** and Evaluation methods. I **published 4 papers in 4 years** and I am proud to say that one of my papers was **published in EMNLP2021,** the **2nd best conference in NLP** : "*A Comprehensive Comparison of Word Embeddings in Event & Entity Coreference Resolution.*" During this period I have also used other tools for research including **Python**, **SQL, AWS EC2, PyTorch, Scipy, NLTK, Scipy, scikit-learnTensorFlow, spacy and HuggingFace models, Javascript, HTML, CSS.**EU Commission - DG FISMA / Student jobJanuary 2019 - August 2019, BrusselsThrough this project which became my master thesis, I developed a novel algorithm and measure for **Complex Terminology Extraction** using **Python, Scipy, scikit-learn and NLTK** to help with Automatic thesaurus learning. **Automatic thesaurus learning** is the process of automatically creating a repository of concepts and their definitions from a set of documents. The learned thesaurus can then be used by readers to make their life easier. In particular, it aims to help them understand heavily technical texts such as financial regulatory documents published by DG FISMA.Orange / Student jobJanuary 2019 - April 2019, LiegeIndah / Volunteering2016 - 2019, LiegeVOO / Student job2016 - 2017, Liege |
| **ㅡ**Personal Projects | horizontal lineTheThoughProcess.xyz / Personal projectSince June 2019Popular Science blog made with **Wordpress** about **AI/LLM/NLP** and other subject that interest meCrazy square/ Personal project2016, LiegeSmall reflex Game for Android phone made in **JAVA** using the **Android SDK.** No longer Available on the Android PlayStore since 2022. |
| **ㅡ****Education** | horizontal lineUliege | HEC-Liege / Ph.D. in Natural Language ProcessingSeptember 2019 - June 2023Uliege | Applied Science Faculty / Master in data scienceSeptember 2017 - June 2019Uliege | Applied Science Faculty / Bachelor in computer scienceSeptember 2014 - June 2017 |
| **ㅡ****Awards**, **Publications &** Lectures | horizontal line**Publications** :* Using meaning instead of words to track topics (NLDB 2022)
* A Comprehensive Comparison of Word Embeddings in Event & Entity Coreference Resolution (EMNLP 2021)
* HTMOT: Hierarchical Topic Modelling Over Time (RANLP 2023)
* Evaluating Unsupervised Hierarchical Topic Models Using a Labeled Dataset (RANLP 2023)
* NLP Methods for Weak Signals Detection from Unstructured Text (DOCTORAL THESIS)

**Lectures given at ULiege to master students :** * Introduction to WordPress (2019-2023)
* Introduction to contextual Word Embeddings and Language models (2022 & 2023)
* Introduction to Topic Models (2020-2023)
* Introduction to MongoDB (2020-2023)
* Sales analytics Part I (Data cleaning and preparation) (2023)

**Lectures given at HEAJ to master & Bachelor students :** * Unity Engine : the basics (2023-2024)
* NPC Behavior Tree (2023-2024)
* Demystifying Artificial Intelligence (2023-2024)

**Winner of the RSSB 2021 mini hackathon (team of 4 PhD students)** |
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