ARMAND STRICKER

PhD Student
NLP & Dialogue Systems

📞 +33671540471

📍 Paris, France

in armand stricker

✉ armandlouis.stricker@gmail.com

○ armandstrickernlp

🔗 homepage

SUMMARY

3rd year Ph.D. student specializing in NLP and dialogue systems, seeking industrial R&D experience. Keen interest in integrating conversational skills into task-oriented agents. 5 years of experience in Python and machine learning for NLP.

EDUCATION

2021 - 2024 **PhD in Computer Science** **Université Paris-Saclay, France**

- **Project: Zero-shot** approach for TOD grounded in a previous chitchat exchange, using **query reformulation** and **coreference resolution**, achieving **97%** of a **LoRA** fine-tuned LLM's performance. *Under Review*

- **Project:** Novel **chitchat augmentation** for MultiWOZ using in-context learning with **Llama-2-70B**. Provides a testbed for building more **chitchat-resilient** TOD systems. *Accepted at LREC-COLING 2024.*

- **Project:** A unified approach to user **emotion detection** and TOD modeling, using a mixture of LoRA fine-tuning and **CoT** prompting on **Llama-2-7B**. Leads to improved task success rates and more empathetic responses. *Accepted at IWSDS 2024.*

- **Project:** Comparative study based on **entropy** of recent Task-Oriented Dialogue (TOD) datasets enhanced with chitchat. *Accepted at ASRU 2023.*

- **Oral** presentation at IWSDS 2024

- **Poster** presentation and **video** recording at ASRU 2023.

- **Poster** presentation at YRRSDS 2023, workshop associated with SIGDial 2023.

- Attendance of ALPS 2023 and LxMLS 2023.

- **Lecturer** since 2021 for 1st year Master's students in Computational Linguistics at INALCO, Paris. **52 hours** of instruction over 2 semesters, providing an accessible **introduction to NLP** in English. **Personally** crafted presentation slides and exams.

- On track to complete my PhD by **November 2024**.

2018 – 2020 **Master's in Computational Linguistics** **Université Paris-Cité, France**

- **Relevant Coursework**: Automatic Translation, Statistical Approaches to NLP, Algorithms, ML & DL for NLP, Mathematics Review (probability, linear algebra and calculus), Object-Oriented Programming, a selection of Linguistics courses.

- **Thesis**: Designed a **temporal QA** task, similar to the SQuAD task. **Curated a task-specific dataset** with over 6000 examples. Implemented the QA model with PyTorch, using LSTMs with attention mechanism. *Accepted at Student Research Workshop, RANLP 2021.*

2013 – 2018 **Bachelor's and Master's in English** **ENS Paris-Saclay, France**

- ENS Paris-Saclay is one of France's top *Grandes écoles* (elite, research-driven institutions in France). **Ranked 3rd** out of over 400 candidates nationwide in the entry exam for my department.

- **Bachelor's** in Human and Social Sciences with a focus on English, covering philosophy, history, literature, and linguistics. Included preparation for a career as a university professor.

- **Master's** focused on English applied to various fields (law, medecine, engineering, computer science). Successfully completed the first year at **New York University**, department of English, and received a **$20,000 scholarship**.

WORK EXPERIENCE

Jan – May 2021 **NLP Research Engineer & Project Manager** **Labsense, Paris**

- Kickstarted the **deep learning initiatives** of a French NLG startup. Used **French transformers** like Barthez and leveraged the OpenAI API to address tasks such as **paraphrasing** and **summarization**.

- Built a successful internal **proof of concept** that demonstrated the effectiveness of transformers compared with a symbolic approach.

May – July 2019 **NLP R&D Internship** **Labsense, Paris**

- Implemented a word-level CNN for multiclass sentence classification to categorize articles submitted to the company's website. This directly helped **secure $10,000** in government research funds.

TECHNICAL SKILLS

- Regular job submissions with **Slurm** to an HPC cluster for LLM training and inference.
- Experience with **human evaluation** including strategic planning, statistical analysis of results and interface development.
- **ML Libraries:** PyTorch, TensorFlow, HuggingFace (transformers, peft), vLLM, langchain, sklearn, Numpy, spaCy, scipy, NLTK, Weights & Biases
- **Programming:** Python, Java, HTML, CSS
- **Other resources/frameworks:** HTML/CSS/XML, SQL, Unix/Linux, Git, Github, Streamlit

PUBLICATIONS AND UNDER REVIEW

- *A. Stricker et al.* **Task-Oriented Dialogue Grounded in Chitchat: A Zero-Shot Approach Based on Query Reformulation**. *Under Review*

- *A. Stricker et al.* **Chitchat as Interference: Adding User Backstories to Task-Oriented Dialogues** LREC-COLING 2024. Awaiting conference proceedings.

- *A. Stricker et al.* **A Unified Approach to Emotion Detection and Task-Oriented Dialogue Modeling**. IWSDS 2024. Awaiting conference proceedings. (link)

- *A. Stricker et al.* **Enhancing Task-Oriented Dialogues With Chitchat: a Comparative Study Based on Lexical Diversity and Divergence**. ASRU 2023. (link)

- *A. Stricker* **Towards More Natural Dialogues: Integrating Open-Domain Dialogue Skills into Task-Oriented Agents**. YRRSDS 2023, workshop associated with SIGDial 2023 (link)

- *A. Stricker et al.* **Searching for Snippets of Open Domain Dialogue in Task-Oriented Dialogue Datasets**. Research from 2022 submitted to arxiv in 2023. (link)

- *A. Stricker* **Question Answering in Natural Language: the Special Case of Temporal Expressions**. Student Research Workshop associated with RANLP 2021 (link)

ADDITIONAL INFORMATION

- **Languages**: *French* (native), *English* (fluent), *German* (intermediate), *Spanish* (intermediate).
- **Extracurricular**: triathlon, guitar.