

I am an **independent** and **fast learner** passionate by **Reinforcement Learning** and its potential to positively impact society. I highly value **teaching** and **sharing knowledge** as a part-time Lecturer and a writer (TDS). On the long term, I aspire to pursue a **Ph.D.** and become a **Research Scientist** in the industry.

## EDUCATION [\[formatted transcript\]](#)

03/2019 - 07/2023	<b>Diplôme Grandes Écoles</b> , EPF - Ecole d'ingénieur·e·s Expected to graduate with <b>First-Class Honours</b> ( <i>Mention Très Bien</i> ) Ranked <b>9/149 (6%)</b> <b>MSc Average: 16.92 (84.6%)</b> <b>BSc Average: 13.47 (67.4%)</b>	Montpellier, France
09/2015 - 07/2018	<b>French National Baccalauréat, Scientific Section</b> , Lycée Privé Nevers Obtained with <b>High Honours</b> ( <i>Mention Bien</i> )	Montpellier, France

## EMPLOYMENT

### Academic Appointments

09/2023 - 01/2024	<b>Part-time Lecturer (Professeur Vacataire)</b> , EPF - Ecole d'ingénieur·e·s Course: <b>Natural Language Processing (NLP)</b> Responsibilities: <b>Module Leader, Module Lecturer, Exam-Setting</b> for a class of <b>25 MSc students</b> Curriculum (15h): <ul style="list-style-type: none"><li>• Introduction to NLP and Preprocessing Pipelines</li><li>• Vectorization Methods and Machine Learning for NLP</li><li>• Word Embeddings and Text Similarity</li><li>• Sequence-to-Sequence Deep Learning Models</li></ul>	Montpellier, France
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### Industry

02/2023 - 07/2023	<b>Data Scientist</b> (Master thesis), BMW Group Master Thesis Title: “ <b>Time Series Based Anomaly Detection For Fleet Connectivity</b> ” Grade: <b>20/20 (100%)</b> Designed and implemented an Anomaly Detection Algorithm based on Time Series derived Features <ul style="list-style-type: none"><li>• Reduced the anomaly detection window from <b>days</b> to <b>minutes</b> and channel dependency from <b>two channels</b> to <b>one</b>.</li><li>• Discovered a method enabling <b>lost data quantification</b> for all anomalies, leading to the <b>creation of a new KPI</b> for stakeholders.</li><li>• <b>Deployed a proof-of-concept</b> using Amazon Web Services and PySpark.</li></ul> Implemented a Time Series Forecasting Model using Meta's NeuralProphet ( <i>Triebe, 2021</i> ) <ul style="list-style-type: none"><li>• Allowed to predict the expected number of user connections for the following day with an <b>average error of 1%</b>.</li></ul>	Munich, Germany
06/2022 - 07/2022	<b>Data Scientist</b> (Remote Student Job), CEWE Stiftung & Co. KGaA Building an Aspect-Based Sentiment Analysis Pipeline <ul style="list-style-type: none"><li>• Designed and implemented an NLP pipeline combining <b>topic extraction</b> and <b>sentiment analysis</b> of customer reviews.</li><li>• Applied the pipeline to analyze and gain insights from customer feedback in <b>French</b> and <b>German</b>.</li></ul>	Fabrigues, France
07/2021 - 01/2022	<b>Data Scientist</b> (Bachelor thesis), CEWE Stiftung & Co. KGaA Bachelor Thesis Title: “ <b>Multilingual Text Classification using Transformers</b> ” Grade: <b>17.67/20 (88.4%)</b> BERT Model with Transfer Learning <ul style="list-style-type: none"><li>• Fine-tuned an <b>XLM-RoBERTa</b> (<i>Goyal, 2020</i>) model using Transfer Learning techniques on 110.000 documents.</li><li>• Implemented <b>Temperature Scaling</b> (<i>Guo, 2017</i>) to produce calibrated probability outputs, enabling <b>uncertainty estimation</b>.</li><li>• Achieved an F1-score of <b>93%</b> across <b>14 classes</b> in <b>3 languages</b> (<i>German, English and French</i>).</li><li>• Deployed an <b>active learning web application</b> to facilitate efficient data labeling and model training.</li></ul>	Oldenburg, Germany

# INDEPENDENT STUDY

09/2023 - 01/2024







Independent Study Semester (preparation for MSc applications)

Montpellier, France

## • Studying Probabilistic Machine Learning, Reinforcement Learning and Mathematics:

- References:
  - Probabilistic Machine Learning: An Introduction, *Kevin P. Murphy*, MIT Press, 2022
  - Reinforcement Learning: An Introduction (Second Edition), *Richard S. Sutton and Andrew G. Barto*, MIT Press, 2018
  - Mathematics for Machine Learning, *Marc Peter*, Cambridge University Press, 2020

## • Maintaining a [Machine Learning Blog](#):

- Published:
  - [A Gentle Introduction To Deep Reinforcement Learning in JAX](#) code:  article: 
    - Guided implementation of DQN with uniform Replay Buffer; solving Cartpole in about a second
    - Published on **Towards Data Science**, selected as part of the “Getting Started” section (over 2000 reads within the first 3 days)
  - [Temporal-Difference Learning and the importance of exploration: An illustrated guide](#) code:  article: 
    - Comparative study of several **model-free** and **model-based** RL algorithms (**Q-learning**, **Dyna-Q**, **Dyna-Q+**) outlining the importance of continuous exploration in environments with sparse rewards.
    - Published on **Towards Data Science**, selected as part of the “Editors’ picks” and “Data Science and ML: Must-reads” sections (2000 reads within the first week)
  - [Vectorize and Parallelize RL Environments with JAX: Q-learning at the Speed of Light ⚡](#) code:  article: 
    - Implemented a **parallelized version of Q-Learning** on a **vectorized environment**, achieving a speed of **1.5 million steps per second across 30 parallel agents on a single CPU**
    - Published on **Towards Data Science**

## • Literature Study: Multi-Agent RL and Open-Ended Learning Methods

- Papers:
  - MAESTRO: Open-Ended Environment Design for Multi-Agent Reinforcement Learning, *Mikayel Samvelyan (UCL DARK, META AI) et al.*, 2023
  - Prioritized Level Replay, *Minqi Jiang, Edward Grefenstette, Tim Rocktaschel (UCL DARK)*, 2021
- Theses:
  - Deep Multi-Agent Reinforcement Learning, *Jakob N. Foerster (University Of Oxford)*, 2018
  - Learning Curricula in Open-Ended Worlds, *Minqi Jiang (UCL DARK)*, 2023

## • Regular Attendance to ML and RL Seminars:

- [ML Collective](#): “Deep Learning: Classics And Trends” (weekly paper reviews and discussions)
- [University of Maryland Multi Agent RL Reading Group](#): (weekly seminars)

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## LANGUAGES

- **French**: Native
- **German**: Intermediate (two 6-months internships in Munich and Oldenburg)
- **English**: Fluent (Toefl: 107/120, ToEIC: 975/990)
- **Spanish**: Intermediate (6 years, throughout middle and high school)

## EXTRACURRICULARS

- Guitar (electric & acoustic): 6 years
  - Regularly publish original instrumental pieces on social media
  - Played 4 concerts within first 3 years of practice
- Singing: 3 years
- Computer-assisted music production: 3 years
- Rollerskating: 10 years, competed in the FISE Montpellier 2016 (International Extreme Sports Festival, ~500 000 visitors per year)
- Boxing & Muay Thai: 2 years
- Other hobbies: chess, calisthenics, running