

# Teddy ALEXANDRE

📍 Paris, FR | @ teddyalexandrepro@gmail.com | 🌐 LinkedIn | 🐙 GitHub | 📁 Portfolio

## GenAI Data Scientist

### SUMMARY

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Entry-level AI specialist with hands-on expertise in NLP and Generative AI, I am driven by a passion for solving complex challenges and pushing the boundaries of innovation through cutting-edge projects. Skilled in building and maintaining CI/CD pipelines to streamline model deployment and accelerate development cycles, I have acquired experience in developing projects on cloud-based environments. I currently work as a GenAI Data Scientist at Publicis Re:Sources. Feel free to reach out!

### WORK EXPERIENCE

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#### Publicis Re:Sources

Paris, France

*GenAI Data Scientist*

*February 2025 - Currently, Full-time*

- Contributed to the development of an advanced chatbot RAG for many use cases
- Integrated Oracle 23ai as a vector store for managing document ingestion efficiently
- Maintaining CI/CD pipeline to ensure seamless and robust integration of the project

#### CEA LIST

Paris, France

*NLP Research Intern*

*April 2024 – September 2024, Internship*

- Conducted a literature review on parameter-efficient fine-tuning methods (LoRA, Adapters, Prefix tuning)
- Fine-tuned a language model using prefix-tuning based methods, to perform domain adaptation at cheap cost
- Iterated the previous approach for a target sentiment classification task
- Supervised by Evan Dufraisie and Julien Tourille

#### Synchrotron SOLEIL

Paris, France

*Research Intern*

*June 2023 – August 2023, Internship*

- Implemented and deployed a deep learning algorithm analyzing diffraction patterns of various crystalline solids to predict space groups
- Managed a data ingestion pipeline (retrieval, preprocessing, model inference and evaluation)
- Optimized neural network hyperparameters to enhance model performance
- Supervised by Anass Bellachehab and Emmanuel Farhi

#### Swiv

Paris, France

*Operations Research Intern*

*May 2022 – July 2022, Internship*

- Conducted a literature review on vehicle routing algorithms
- Applied Clarke & Wright's algorithm (1964) to a set of vertices representing collection depots in Normandy
- Evaluated the algorithm's performance and attempted enhancements

### EDUCATION

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#### ENS Paris-Saclay

Paris, France

*Master of Science (MSc) Mathematics, Vision and Learning (MVA)*

*September 2023 – September 2024*

- **Relevant coursework:** Image Processing and Computer Vision, Natural Language Processing, Machine Learning, Deep Learning, Time Series, Advanced Statistics

#### ENSIIE

Paris, France

*Master of Engineering (MEng) in Applied Mathematics*

*September 2021 – September 2024*

- **Relevant coursework:** Probability, Statistics, Optimization, Regularized Regression Methods, Data Analysis, Relational Databases

#### Lycée Saint-Louis

Paris, France

*Preparatory classes, Mathematics and Physics Major (MPSI - MP)*

*September 2019 – July 2021*

- Intensive preparation for entry into top French engineering schools
- **Relevant coursework:** Mathematics, Physics, Chemistry, Computer Science

## PROJECTS

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<b>Time series anomaly detection</b>	Autumn 2023
<ul style="list-style-type: none"><li>• Reimplemented MERLIN, an algorithm of time series anomaly detection based on discords</li></ul>	
<b>Travelling salesman problem using geometric deep learning</b>	Autumn 2023
<ul style="list-style-type: none"><li>• Analysis of ‘An efficient graph convolutional network technique for the travelling salesman problem’: partial reimplementation and tests</li></ul>	
<b>Molecule retrieval using natural language queries</b>	Winter 2024
<ul style="list-style-type: none"><li>• Cross-modal retrieval of diverse molecules encoded as graphs using their text descriptions</li></ul>	

## SKILLS & INTERESTS

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**Programming:** Python, R, C++, HTML/CSS, SQL

**Data analysis and visualization:** Pandas, Spark, NumPy, Scipy, Matplotlib, Seaborn, Plotly, Tensorboard, Wandb

**Machine learning:** Scikit-learn, PyTorch, Tensorflow, XGBoost, PyTorch Lightning, Transformers, MLFlow

**Natural language processing / Large language models:** BERT, GPT, Hugging Face, Gensim, NLTK

**Computer vision / Image processing:** PIL, OpenCV, Pytesseract

**Cloud - CI/CD:** Azure (Portal, Pipelines), GCP

**IaC:** Bicep

**Software:** Shell, Git, Docker, Slurm, Jupyter

**Theoretical:** Probability, Statistics, Optimization, Graph theory, Machine learning, Deep learning, Reinforcement learning

**Soft skills:** Communication, Analytical, Problem-solving, Creativity, Critical thinking

**Languages:** French (mother tongue), English (advanced, Linguaskill 180+), Spanish (basics)

**Interests:** Sports (weightlifting, running, cycling), Music, Travels

## ORGANIZATIONS

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<b>DataSciIENCE association from ENSIIE</b> <i>Student Member</i>	<i>September 2022 – June 2023</i>
<b>SoutIIEn association from ENSIIE</b> <i>Student Member</i>	<i>September 2022 – June 2023</i>
<b>Dièse association from ENSIIE</b> <i>HR manager</i>	<i>January 2022 – December 2023</i>