

Antoine SIMOULIN, PhD

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Technical Skills: **Python, Pytorch, Git, SQL, Linux/Unix/Shell, Bash, HTML, CSS, Excel, PowerPoint, LaTeX**

EXPERIENCES



Postdoctoral Researcher, AI Infrastructure

Meta

9 months 📅 November 2022 - Today 📍 Chicago, IL (Remote)

Determine a path forward in solving complex problems by benchmarking industry and academic solutions:

- **Optimise internal AI recommendation algorithms and training efficiency of large language models (LLMs)** by implementing cutting-edge research articles to production systems;
- **Strengthen the technical excellence of the team by publishing in top conferences, obtaining the best paper award** at the Efficient Systems for Foundation Models workshop (ICML 2023), and animating quarterly internal knowledge-sharing sessions.



Expert Data Scientist, NLP

Quantmetry

5 years 📅 April 2017 – August 2022 📍 Paris, France

Optimized and automated processes for **real-world problems** by contributing to the ideation, framing, deployment, and monitoring phases of **end-to-end data science projects**:

- Reduced the email response time by 15% by automatically classifying, summarizing, and automating replies for a large French insurance using **models implemented in TensorFlow** and an API **deployed using a Jenkins CI/CD**;
- Measured the impact of breast cancer screening in France by **publishing, in a national journal**, a statistical study conducted on unstructured medical records using **Natural Language Processing (NLP)** methods.



Quantitative Analyst Intern, Securitization team

Crédit Agricole Corporate and Investment Banking

1 year 📅 September 2015 – August 2016 📍 New York, NY

Set up new worldwide securitization operations by conducting **data analysis** using **SQL** and **VBA** on large databases, reporting to notation agencies, and improving the running time of **Monte-Carlo's algorithms in CUDA**.

EDUCATION



PhD, Computer Science (NLP)

University Paris Cité

3 years 📅 February 2019 - July 2022 📍 Paris, France

Conducted research advised by Professor Benoit Crabbé, member of LLF lab, focusing on NLP and deep learning:

- Pushed forward the state-of-the-art by **designing innovative neural networks architectures, publishing articles in top peer-reviewed conferences, and pre-training LLMs** such as a version of GPT-2 for French;
- Shared my knowledge by building and **teaching a graduate-level NLP course** including 10 lectures and labs to around 25 students from the mathematics department at University Paris Cité between 2020 and 2022;
- **Contributed to open-source by developing packages awarded during hackathons** including the PyTorch Annual Hackathon 2021, and the Hugging Face Community week using JAX/Flax for NLP & CV 2021.



Dual Master Program (MSc), Data Science

Ecole Polytechnique

1 year 📅 2016 - 2017 📍 Paris, France

The leading French research, and academic institution. Mathematical and numerical analysis. Statistical and machine learning. Large-scale calculations and distributed databases.



Master of Science (MSc), Simulation and Mathematical Engineering

ENSTA Paris

4 years 📅 2013 – 2017 📍 Paris, France

Top engineering school in France. Computer science & mathematics degree with a major in optimization. Last year advised by Pr. Pierre Carpentier, director of the UMA lab.