

# Guilhem Fouilhé

AI / Machine Learning Engineer & Researcher

✉ g.g.a.fouilhe@gmail.com

☎ +33 6 46 49 44 93

📍 Toulouse, France

🌐 gfouilhe.github.io

🔄 gfouilhe



## Profile

AI / Machine Learning researcher and engineer finishing a PhD on explainability (XAI) and interpretability of Large Language Models (LLMs) and AI planning. I build data-driven AI applications end to end, from research prototypes to deployed, interactive tools, pairing a strong mathematical foundation with hands-on PyTorch, the Hugging Face stack and modern full-stack web development. Available from late 2026.

## Skills

Programming	Python (primary), C/C++, Java, JavaScript/TypeScript; notions of Rust, R, Julia, Matlab, OCaml, SQL.
ML & Data Science	<b>PyTorch / Lightning / NeMo / Triton, Hugging Face</b> (Transformers, Datasets, PEFT, TRL), lm-evaluation-harness, <b>TensorFlow/Keras</b> , scikit-learn, NumPy/SciPy, Pandas, spaCy/NLTK, OpenAI API, VLLM, Gradio.
Web & Tooling	Angular, FastAPI, Node.js, MongoDB; Git, Docker, Linux, $\LaTeX$ .
Languages	French (native), English (fluent, C2).

## Experience

- 2023 – present **Doctoral Researcher, IRIT & ANITI, Université de Toulouse**  
Explaining complex AI models interactively and approximately: explainability and interpretability of large language models and automated planning. Member of the EU project TUPLES.
- 2023 (6 mo.) **Research Intern, IRT Saint Exupéry**  
Supervisors : David Vigouroux & Agustin Picard.  
*Influence functions for global explainability of deep neural networks.*
- 2022 (3 mo.) **Research Intern, CerCo – CNRS** (funded by ANITI).  
Supervisors : Grégory Faye & Rufin VanRullen.  
*Mathematical models for predictive coding in vision.*
- 2021 (2 mo.) **Research Intern, IMT – Institut de Mathématiques de Toulouse** (funded by CIMI).  
Supervisors : Grégory Faye & Christophe Besse.  
*Sharp thresholds for bistable reaction–diffusion equations.*

## Projects & Software

- 2026 **SSA-Luciole-1B** – Pretraining a billion parameters state-of-the-art LLM from scratch. HPC GPU Training and Evaluation (Pytorch Lightning, Nvidia NeMo, Hugging Face, Custom Triton Kernel).
- 2025 **IPEXCO** – platform for iterative planning with interactive goal-conflict explanations. Full-stack development (Angular, Node.js / Express, MongoDB, OpenAI API).  
**TempEval Visualization** – interactive visualization for temporally annotated data (TimeML / TimeBank / TempEval).
- 2022 **Linguistic markers of dementia** – academic project, IRIT (supervised by Chloé Braud): literature review and predictive modelling.
- 2021 **Pl@ntNet** – visualization tools for a Pl@ntNet dataset, Institut Montpellierain Alexandre Grothendieck.

## Education

---

- 2023 – present     **Ph.D. in Computer Science**, Université de Toulouse (IRIT / ANITI).  
Advisors: Nicholas Asher & Philippe Muller. Expected defense: December 2026.
- 2021 – 2023     **M.Sc. in Computer Science & Mathematics for AI**, Université Toulouse III – Paul Sabatier.  
*Valedictorian (major de promotion), with honours.*
- 2017 – 2021     **B.Sc. in Mathematics**, Université de Montpellier.  
First two years as a Mathematics–Physics double major. With honours.

## Selected Publications

---

- 1 **Fouilhé, G.**, Eifler, R., Poché, A., Thiébaux, S., & Asher, N. (2026). Exploring Plan Space through Conversation: An Agentic Framework for LLM-Mediated Explanations in Planning. *arXiv*. Under review. arXiv: 2603.02070
- 2 Naim, O., **Fouilhé, G.**, & Asher, N. (2025, September). Re-examining Learning Linear Functions in Context. In *KI 2025: Advances in Artificial Intelligence* (pp. 104–117). [doi:10.1007/978-3-032-02813-6\\_8](https://doi.org/10.1007/978-3-032-02813-6_8)
- 3 **Fouilhé, G.**, Eifler, R., Thiébaux, S., & Asher, N. (2025). Conversational goal-conflict explanations in planning via multi-agent llms. *Workshop on Planning in the Era of LLMs (LM4Plan @ AAI 2025)*.

Full list (6 publications): <https://gfouilhe.github.io/publications>

## Awards & Funding

---

- 2021 – 2023     **ANITI Graduate School Fellowship** (Master's, awarded in both M1 and M2).
- 2023     **Valedictorian** of the M.Sc. in Computer Science & Mathematics for AI.
- 2021 / 2022     **Competitive research internship grants** from CIMI and ANITI.