# Guilhem **RATABOUIL**

## Contact

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## Presentation

Holder of a Master's degree in Artificial Intelligence, I am passionate about technological innovation and scientific research. My rigor and perseverance, strengthened through sports practice, motivate me to take on challenges in research and development, whether in academic or industrial settings.

## Languages

**Spanish:** Native/Bilingual (C2)
**French:** Native/Bilingual (C2)
**English:** Professional proficiency

## Skills

**Programmation**
- Python, Java, C
- Docker
- Hugingface, scikit-learn, PyTorch
- flask, streamlit, Git
- SQL, Oracle, MySQL

**Soft skills and competencies:**
- Teamwork
- Curiosity, Rigor, Creativity
- Project management
- Developing methodologies

## Hobbies

Trail running, Grappling, Chess

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# Professional Experience

### AI Engineer — *Intent Technologies*                    **Mar 2025 – Sep 2025**

- Development of an end-to-end NLP model for information extraction and generation from documents. Implemented all stages of the lifecycle: design, data preparation, and evaluation methodology.
- Design and implementation of deep learning models for document classification (CNN pipelines, encoder–DNN), improving accuracy and scalability on real-world datasets.
- Development of a multi-agent text-to-SQL framework combining LLMs and Retrieval-Augmented Generation (RAG), enabling users to query databases in natural language with greater precision and reliability.
- Development of MCP servers to connect and orchestrate language models (LLMs) within distributed AI pipelines.

### AI Engineer (Volunteer) — *Made In Tracker*       **Jun 2024 – Sep 2024**

- Built an intelligent chatbot leveraging Groq API and Firebase, with a strong emphasis on optimizing prompt engineering for contextual accuracy.
- Designed and deployed a Flask-based API architecture with multiple endpoints, ensuring efficient interaction between backend services and frontend interfaces.
- Improved system scalability and robustness by integrating asynchronous request handling and implementing logging/monitoring solutions.

### Research and Study Project at *IRIT.*          **2024.05–2024.08**

◇ Development of an innovative web application for managing IoT devices in a smart home, aiming to improve the autonomy of people with disabilities.

◇ User needs analysis, implementation of an optimized architecture for efficiency and responsiveness, and research on integrating AI-based features (LLM/SLM).

### Flying Farmer Groove Internship          **2021.04–2021.06**

◇ Creation of a video distribution web page.

◇ Development of a music training platform (Video On Demand system).

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# Education

### Master's in Artificial Intelligence: Foundations and Applications. *University of Toulouse Paul Sabatier.*          **2023–2025**

- Design of high-performance deep learning models (Transformers, LLM, CNN, DRL) for classification and prediction.
- Applied research project (top of class) on the internal representations of LLMs to propose a visual and interactive mapping of a book's content.
- Probabilistic modeling with Bayesian networks for planning and decision optimization.
- Deployment of AI systems for decision support in complex environments.
- Development of NLP tools for text analysis, extraction, and generation.

### Bachelor's in Sports Management (STAPS). *University of Toulouse Paul Sabatier.*          **2021–2022**

### Bachelor's in Computer Science. *University of Toulouse Paul Sabatier.* **2018–2021**

### Scientific Baccalaureate. *Lycée Français Molière, Zaragoza.*          **2018**