

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

Programming

- Python, Java, C
- TensorFlow, 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

PROFESSIONAL EXPERIENCE

AI R&D INTERN — Intent Technologies **Mar 2025 – Sep 2025**

- Conducted applied research on Large Language Models (LLMs) to enable automatic document analysis and information extraction.
- Designed and implemented deep learning models for document classification (CNN, encoder–DNN pipelines), improving accuracy and scalability for real-world datasets.
- Developed a multi-agent text-to-SQL framework combining LLMs with Retrieval-Augmented Generation (RAG), allowing end-users to query databases through natural language with higher precision and reliability.
- Collaborated with cross-functional teams to validate models against production requirements and documented research findings for both academic and industrial audiences.

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).

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**