

Maxence Debes

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MSc data science student with a strong background in mathematics and computer science. Specialized in advanced machine learning and the implementation of state-of-the-art AI algorithms.

Looking for a 6-month end-of-studies internship in AI/machine learning for spring-summer 2026.

Projects

Hi! Paris Hackathon 2025 (2nd Place)

- Ranked 2nd out of 80+ teams in the 2025 edition of the Hi!Paris data science hackathon. Task: Predicting student PISA scores from complex socio-economic backgrounds.
- Engineered a Gated Model (router composed of two XGBoost regressors), achieving an R^2 score of 0.79 on the final test set.

Molecular Graph Captioning (Active Kaggle Competition)

- Development of a retrieval-based architecture using contrastive learning to align molecular graph embeddings with natural language descriptions in a joint latent space.
- Implementation of a dedicated graph neural network encoder using PyTorch Geometric, optimized for semantic alignment through BERTScore and BLEU-4 metrics.

DragonLLM — LLM Toxicity & Guardrails (Upcoming, Jan 2026)

- Objective: Train a classifier designed to interrupt generation when the Language Model begins producing toxic or harmful content.
- Implementing Qwen3-Guardrails and circuit-breaker inspired architectures for real-time safety enforcement in a specialized AI model for the finance sector.

Data Privacy & Anonymization — Project Cassiopee

- Investigated privacy and re-identification risks in anonymized healthcare datasets through OSINT techniques, contributing to ethical and responsible use of medical data for AI research.

Automated Parking Optimization

- Engineered a hybrid algorithm combining A* search (for pathfinding) and Simulated Annealing (for global optimization) to minimize retrieval costs.

Work Experience

IT Intern — Batigere Maison Familiale

Jul 2025 – Aug 2025

- Optimized digital infrastructure by migrating the company to SharePoint in order to enhance collaboration and document management, with adoption by 100% of employees.
- Designed and implemented a GDPR compliance policy, reinforcing data security and ensuring regulatory compliance.

Java Programmer Intern — Atos

Jul 2024 – Aug 2024

- Designed and implemented a telework tracking application using the JHipster application generator to facilitate accessibility to workstations.

Education

École Polytechnique — Polytechnic Institute of Paris

2025 – present

MSc Data Science

Relevant coursework: Advanced Learning for Text and Graph Data (ALTEGRAD – Joint MVA Course), Deep Learning, Machine Learning, Reinforcement Learning, Representation Learning (Joint MVA Course), Optimization for Data Science, Generative Models.

Télécom SudParis — Polytechnic Institute of Paris

2023 – present

Master's Degree in Mathematics and Computer Science

Relevant coursework: Real Analysis and Integration, Statistics and Data Analysis, Optimization, Scientific Computing, Machine Learning and Data Mining, Applied Statistics, Stochastic Processes, Continuous Optimization for Learning.

Skills & Interests

Technical Skills: Python, PyTorch, Transformers, Scikit-learn, Pandas, SQL, Java, Git, Linux, \LaTeX

Languages: French (Native), English (C1 – TOEIC 965/990), German (A2)

Engagement & Interests: Former President of student association; Handball (Competitive) & Music