



Antoine EDY
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PUBLICATIONS

* denotes equal contribution

- **DAEDALUS: Bootstrapping Agent Memory from Self-Generated Tasks**
 - A. Edy*, M. Conti*, V. Xing*, M-A. Allard, N. Benhamdane, G. Viaud
 - Self-improving agents that build their own memory by practicing on self-generated tasks, without training tasks or oracle verifiers. On AppWorld, τ^2 -bench and AutomationBench, strongest method without training tasks and competitive with those that use them; memory banks transfer across model families.
 - **Preprint** (2026), [arXiv:2610.08048](#)
- **ViDoRe V3: A Comprehensive Evaluation of RAG in Complex Real-World Scenarios**
 - A. Loison*, Q. Macé*, A. Edy*, V. Xing, T. Balough, G. Moreira, B. Liu, M. Faysse et al.
 - Multimodal RAG benchmark: 26,000 pages, 18,594 queries across 10 domains in 6 languages, 12,000h of human annotation. Work made in collaboration with NVIDIA; ~500k dataset downloads/year on [Hugging Face](#).
 - **ACL 2026 Main Conference** (Oral Presentation), [arXiv:2601.08620](#)
- **Analyzing Targeted Behaviors of Late Interaction Models**
 - A. Edy*, M. Conti*, Q. Macé*
 - Analysis of length bias in multi-vector scoring and MaxSim similarity distribution on NanoBEIR benchmark
 - **ECIR 2026** Late Interaction Workshop (Poster), [arXiv:2603.26259](#)

EXPERIENCE

- **Illuin Technology** — *AI Research Scientist* September 2024 - Present
 - First author of DAEDALUS: designed a self-improving agent that builds its own memory from self-generated practice tasks for in-context learning on long-horizon tool-use tasks
 - Co-led the creation of ViDoRe V3, establishing the gold standard benchmark for multimodal document retrieval evaluation; contributor to the MTEB ecosystem
 - Conducted research on Multimodal Retrieval and late interaction dynamics (ColBERT/ColPali-like models)
 - Fine-tuned LLMs for tool calling in agentic RAG contexts; fine-tuned speech-to-text models (Whisper, NVIDIA Parakeet) for domain-specific industrial applications
 - Conducted 50+ technical interviews as part of the hiring process for Data Scientist positions
- **Centre for Vision, Speech and Signal Processing (University of Surrey)** — *Research Intern* 2024
 - Studied zero-shot semantic segmentation using multimodal foundation models; improved ZegCLIP baseline with multi-scaling techniques and inner encoder layers
 - Research led to Master's thesis: *Exploring Zero-Shot Capabilities of Multimodal Foundation Models for Semantic Segmentation*, supervised by Prof. Muhammad Awais Rana and Dr. Srinivasa Rao Nandam [arXiv:2406.12345](#)
- **AI-vidence** — *ML Research Intern* 2023
 - Developed a Python library for tabular model explainability and cluster analysis
 - Presented at SpringTech Paris-Saclay 2023 at HEC Paris

EDUCATION

- **University of Surrey** — *Master of Science in Artificial Intelligence* 2023-2024
 - International Excellence Scholarship recipient. Graduated with Highest Honors
 - NLP, CV, Audio Processing, Symbolic Knowledge Representation and Logical Reasoning, People-Centered AI
 - Master's Thesis: *Zero-shot and Few-shot Adaptation of Multimodal Foundation Models*
- **École Centrale de Lyon** — *General Engineering Program (Grande École)* 2021-2024
 - Specializations: Mathematics, Machine Learning, Probability Theory, Chaos and Fractals
 - Project Leader: Unsupervised MCU Classification with Deep Learning for STMicroelectronics
- **Collège Stanislas Paris VI** — *Classe Préparatoire, MPSI-MP* 2019-2021

TALKS & BLOG POSTS

- **Multimodal Retrieval and ViDoRe V3**, Invited talk, Neurons & Peppers (Datacraft, Paris) 2026
- **Agentic Search Framework for ViDoRe V3** [arXiv:2601.08620](#) 2026
- **Xplique: analysing different scales of interpretability** [arXiv:2603.26259](#) 2023

TECHNICAL SKILLS

ML Frameworks: PyTorch, Hugging Face (Transformers, PEFT, Accelerate), W&B, NVIDIA NeMo, OpenMMLab
Information Retrieval: SentenceTransformer, pylate, colpali-engine, MTEB, FAISS, (Fast)PLAID, ElasticSearch
Infra. and Ops.: Kubernetes, Docker, vLLM, SLURM, HTCondor, skypilot, GCP
Languages: French (Native), English (C1, TOEFL 623/677), Spanish (B1)

HOBBIES

- Competitive tennis, football, and any sport going (any day, any time)
- Chess, where my tactics and my blunders are evenly matched
- Cinema, literature, hip-hop music
- Digital graphic design and art culture