

PhD in natural language processing (ENS Paris-Saclay). 7 years pre-training, fine-tuning, and evaluating language models in research labs and startups. 8 peer-reviewed publications, with first-author papers at EMNLP and COLING. Open models and datasets released on Hugging Face.

Education

École Normale Supérieure Paris-Saclay

Paris, France

PhD in natural language processing. Advisors: A. Finkel, P. Paroubek, and L. Ye

2022 – 2026

- Thesis: [Natural language processing for subjectivity analysis in personal narratives](#).

Université de Technologie de Compiègne

Compiègne, France

Master's degree in data science and artificial intelligence

2017 – 2022

- Exchange semesters at National Taiwan University of Science and Technology (Taipei, 2020; ranked 1st in the computer vision course) and Shanghai University (2019).

Selected work experience

Research Scientist, Callyope (startup)

Paris, France

NLP for psychiatry

Mar 2025 – Present

- Made summary generation of clinical documents 2x faster with KV-cache-aware request scheduling.
- Built clustering methods with LLM-generated descriptions to surface speech topics linked to clinical scales.

Research Scientist Intern, École Normale Supérieure Paris-Saclay

Paris, France

NLP for emotion recognition [\[report\]](#)

Feb – Jul 2022

- Trained language models to recognize emotions from their psychological components.
- Released a French corpus of 812 emotional narratives structured by psychological components.

Research Engineer, Dashlane

Paris, France

NLP for code generation (part-time)

Sep 2021 – Feb 2022

- Designed a transformer-based approach for HTML generation to improve form automation.
- Optimized training with parameter-efficient and quantization methods, before PEFT existed.

Software Engineer, Makezu (startup)

Paris, France

NLP for lead generation on social networks [\[report\]](#)

Sep 2020 – Feb 2021

- Fine-tuned language models for trend analysis and user profiling on social media.

Publications

★ International conference ♦ International journal ▲ National conference ■ National journal

♦ [Interpretable Topic Modeling of Spontaneous Speech in Depression Using Large Language Models](#). G. Cortal et al. In *JMIR Mental Health*, 13(1), 2026.

★ [Formalizing Style in Personal Narratives](#). G. Cortal and A. Finkel. In *EMNLP 2025*. [\[poster\]](#) [\[slides\]](#)

★ [Textualized and Feature-based Models for Compound Multimodal Emotion Recognition in the Wild](#). N. Richet et al. In *ABAW at ECCV 2024*. *Third place in the competition*.

★ [Improving Language Models for Emotion Analysis: Insights from Cognitive Science](#). G. Cortal and C. Bonard. In *CMCL at ACL 2024*.

▲ [Améliorer les modèles de langue pour l'analyse des émotions : perspectives venant des sciences cognitives](#). G. Cortal and C. Bonard. In *TALN 2024*. [\[poster\]](#)

★ [Sequence-to-Sequence Language Models for Character and Emotion Detection in Dream Narratives](#). G. Cortal. In *LREC-COLING 2024*. [\[slides\]](#)

■ [Automatisation du codage des personnages et de leurs émotions dans les récits de rêves avec des modèles de langue](#). G. Cortal. In *Traitement Automatique des Langues*, 65(1), 2024.

★ [Emotion Recognition based on Psychological Components in Guided Narratives for Emotion Regulation](#). G. Cortal et al. In *LaTeCH-CLfL at EACL 2023*. [\[slides\]](#) [\[video\]](#)

Selected open-source projects

[Piaget](#), a model fine-tuned for psychological reasoning, and [Beck](#), a model aligned with psychotherapeutic preferences.

[PsychologicalReasoning-15k](#), a dataset of psychological and philosophical reasoning traces.

[Oneirogen](#), a model for dream generation, and [Dream-T5](#), a model for emotion and character prediction in dreams.

French models for [emotion component prediction](#) and [discrete emotion prediction](#).

[Lightweight preference optimization](#) with LoRA and ORPO.

Teaching experience

Course materials developed from scratch, available on GitHub.

Primary Instructor, École Pour l'Informatique et les Techniques Avancées

Paris, France

Natural Language Processing (150 students, 90h) [[materials](#)]

2024 – 2025

Primary Instructor, École Normale Supérieure Paris-Saclay

Paris, France

Statistical Learning with R (25 students, 31h) [[materials](#)]

Feb – Apr 2023

Teaching Assistant, CentraleSupélec

Paris, France

Algorithms and Complexity (30 students, 21h)

Sep 2022 – Feb 2023

Invited talks

Natural language processing for subjectivity analysis in personal narratives. *Psychiatrie de l'Enfant et de l'Adolescent (Pitié-Salpêtrière, AP-HP)*, 2025. [[slides](#)]

Statistical language modeling: from n-grams to transformers. *LMF (ENS Paris-Saclay)*, 2024. [[slides](#)] [[video](#)]

Natural language processing: perspectives on emotion analysis. *LMF (ENS Paris-Saclay)*, 2024. [[slides](#)]

Large language models and emotional understanding. *Institut Jean-Nicod (EHESS, ENS Ulm)*, 2024. [[slides](#)]

Automatic identification of emotions and their causes. *DATAIA*, 2022. [[slides](#)]

Student supervision

R. Faure. *Formalizing subjective experience with language models*. M2 co-supervised with A. Finkel. Mar – Aug 2025.

N. Richet. *Multimodal emotion analysis*. M2 co-supervised with E. Granger and M. Aslam. Mar – Jul 2024.

U. Pant. *NLP and formal methods*. 2nd year Bachelor co-supervised with A. Finkel. May – Jul 2024.

R. Hachem. *Imageability prediction in emotional narratives*. M1 co-supervised with A. Finkel. May – Sep 2023.

Additional activities and honors

Awarded 35,000 GPU hours on Jean Zay to train language models for emotion analysis. 2023 – 2026.

Co-designed [Egon](#), an art installation exploring AI-human emotional bonds, exhibited at Le Bis in Paris. 2022.

Paris-Saclay University PhD Scholarship. 2022.

Artificial Intelligence for Île-de-France PhD Scholarship. 2022.

Attended Oxford Machine Learning Summer School. 2022. *5% acceptance*.

Maintainer of [gustavecortal.com](#), showcasing photography, poems, live music, vision models, how I memorized one thousand π digits, and other things I like to explore in my free time.

Skills and languages

Languages: French (native), English (fluent), Spanish (basic), Mandarin Chinese (basic).

Programming: Python (PyTorch, JAX, scikit-learn), R, C/C++.

Training and serving: DeepSpeed, PyTorch FSDP, Accelerate, PEFT, TRL, vLLM, llm-d, Kubernetes.