

Federico Milana

Ph.D. in Human-AI Interaction with 5+ years of experience designing, implementing, and evaluating ML classifiers, LLMs and chatbots. Specialized in explainability and human-centered ML.

EXPERIENCE

Postgraduate Teaching Assistant

January 2021 – May 2024 / University College London

Assisted in teaching Python in practical tutorials and assessed coursework for Human-Computer Interaction MSc students.

Research Assistant

August 2019 – November 2019 / University College London

Evaluated the effects of UI design factors on user trust and autonomy delegation to chatbots, contributing to recommendations for chatbot interfaces.

EDUCATION

Ph.D. in Human-AI Interaction in Machine Learning

September 2020 – November 2024 / University College London

Thesis: "Evaluating Interaction with Machine Learning Text Classifiers and Interpretability Techniques".

Research on user interaction, explainability, and iterative model refinement in text classification.

MSc in Human-Computer Interaction

September 2018 – August 2019 / University College London

Graduated with Distinction, awarded Dean's List honors for top 5% academic performance.

BSc in Computer Science

September 2015 – August 2018 / King's College London

Graduated with First-class honors. Specialization in Software Engineering.

PUBLICATIONS

Understanding Interaction with Machine Learning through a Thematic Analysis Coding Assistant: A User Study / CSCW '25 / Forthcoming Publication

Explored how an Interactive ML tool facilitates critical reflection, insights, and adaptation in analytical processes while uncovering misconceptions about ML in non-expert users.

Chatbots as Advisers: the Effects of Response Variability and Reply Suggestion Buttons / CUI '23 / <https://doi.org/10.1145/3571884.3597132>

Demonstrated how response variability, human likeness and reply suggestion buttons significantly increase chatbot advice following.

PROJECTS

QLoRa Bot

April 2025 – Present / <https://github.com/fmilana/QLoRaBot>

Fine-tuned LLaMA-3-8B-Instruct on personal chats using Quantized Low-Rank Adaptation for efficient training, achieving conversational alignment with original user tone and style.

Translation Annotator

March 2025 – Present / <https://github.com/fmilana/TranslationAnnotator>

Developed an Electron application to visualize manual and AI-generated annotations of literary translation regularities using OpenAI and Anthropic's APIs.

Interpretable Text Classification

November 2023 – July 2024 / <https://github.com/fmilana/explanations>

Implemented and evaluated LIME, SHAP, and transformers-interpret heatmaps for text classification using XGBoost and fine-tuned DistilBERT in user studies.

Thematic Analysis Coding Assistant

January 2021 – September 2024 / <https://github.com/fmilana/taca>

Developed a desktop application implementing XGBoost to assist the qualitative coding phase of thematic analysis, enabling iterative model refinement.

Social Trading Chatbot Advisor

June 2019 – September 2019 / <https://github.com/fmilana/socialtradingchatbot>


Developed a simulated social trading environment web application used in online experiments to measure user trust in a conversational agent implemented with RASA.

CONTACT

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<https://github.com/fmilana> 

SKILLS

Machine Learning

- NLP •
- LLMs •
- Fine-tuning •
- Explainability •

Programming

- Python •
- PyTorch •
- Hugging Face •
- XGBoost •
- scikit-learn •
- numpy •
- pandas •

Research

- User studies •
- Qualitative analysis •
- Academic writing •

CERTIFICATIONS

Deep Learning

February 2025
DeepLearning.AI

Machine Learning

February 2025
Stanford University

Mathematics for ML

January 2025
Imperial College London

AWARDS

UCL Faculty of Brain Sciences

2018/2019 Dean's List
August 2019

Academic performance equivalent
to top 5% student achievement

VOLUNTEERING

Reviewer for CHI '24, '25

Reviewer for IMWUT '24

Student Volunteer for CHI '23

Hamburg, Germany