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 / *https://doi.org/10.1145/3711095*
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://linkedin.com/in/fmilana
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