

Kenza Amara

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RESEARCH INTEREST

Explainable AI for Language Models, Graph Neural Networks, Generative Models and its applications in linguistics, health sciences, and environmental sciences.

EXPERIENCE

Microsoft

2023 – 2024

AI Research PhD Internship

Cambridge, UK

- Optimized GNN regression objective with a substructure-aware loss to account for common core structures in molecule pairs.
- Improved feature attribution methods on a recently proposed explainability benchmark.

Meta

2022 - 2023

AI Research Internship

Paris, France

- Reinterpreted binary-hashing and product quantizers as auto-encoders
- Designed back-ward compatible decoders that improve the reconstruction of the vectors from the same codes, significantly outperforming in nearest-neighbor search.

Daikin

2018

ML Engineer Internship

Osaka, Japan

- Developed an optimized ML model regularized by thermodynamics laws
- Improved the predicted power consumption of air-conditioning systems.

EDUCATION

ETH AI Center, Zurich Ph.D. in Computer Science,

2021-...

PhD Advisors: Menna El-Assady, Andreas Krause, Ce Zhang.

ETH University, Zurich MSc in Environmental Science

2019-2021

Ecole Polytechnique, Paris MSc in Computer Science

2016-2019

Lycée Henri 4, Paris Scientific Preparatory Program

2014-2016

SKILLS

Code: Python, R, C/C++, Java

Communication: LateX, React/D3.js, HTML/CSS/PHP, Linux, Microsoft Windows

Languages:

- *Fluent* - English, French, German
- *Intermediate* - Spanish, Japanese

ACTIVITIES

Presentation:

PML4DC ICLR 2022 *Panel Discussion*, Practical ML for Developing Countries

AMLD EPFL 2022 *Lightning talk*, Advances of ML Approaches for Financial Decision-Making

Business - Entrepreneurship:

University of St. Gallen - *Corporate Finance*

2023

Leadership

ETH University - *Teaching Assistant*, Interactive Machine Learning

2024

Sino-French Nuclear Engineering Institute China - *Teaching Assistant*, Mathematics and Physics

2016-2017

PUBLICATIONS

ACL 2024 (reviewing process)

SyntaxShap: A Syntax-aware Explainability Method for Text Generation

Kenza Amara, Rita Sevastjanova, Mennatallah El-Assady

Neurips 2023 - xAI Workshop

GInX-Eval: Towards In-Distribution Evaluation of Graph Neural Network Explanations

Kenza Amara, Rex Ying, Mennatallah El-Assady

Neurips 2023 - Graph Learning Workshop

PowerGraph: A power grid benchmark dataset for graph neural networks

Kenza Amara, Anna Varbella, Blazhe Gjorgiev, Giovanni Sansavini

IEEE Computer Society

Generative Explanation for Graph Neural Network: Methods and Evaluation

Jialin Chen, Kenza Amara, Junchi Yu, Rex Ying

Journal of Cheminformatics

Explaining compound activity predictions with a substructure-aware loss for graph neural networks

Kenza Amara, Jose Jimenez Luna, Raquel Rodriguez Perez

LoG 2022

GraphFramEx: Towards Systematic Evaluation of Explainability Methods for Graph Neural Networks

Kenza Amara, Rex Ying, Zitao Zhang, Zhihao Han, Yinan Shan, Ulrik Brandes, Sebastian Schemm, Ce Zhang

ICMR 2022

Nearest neighbor search with compact codes: A decoder perspective

Kenza Amara, Matthijs Douze, Alexandre Sablayrolles, Hervé Jégou

AAAI 2022

ReforestTree: A Dataset for Estimating Tropical Forest Carbon Stock with Deep Learning and Aerial Imagery

Gyri Reiersen, David Dao, Bjorn Lütjens, Konstantin Klemmer, Kenza Amara, Attila Steinegger, Ce Zhang, Xiaoxiang Zhu

KDD 2020 - Fragile Earth Workshop

OneForest: Towards a Global Species Dataset by Fusing Remote Sensing and Citizen Science Data with Graph Neural Networks

Kenza Amara, David Dao, Charlotte Bunne, Bjorn Lütjens, Dava Newman, Ce Zhang, and Tom Crowther