

Amr Alkhatib

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SUMMARY

As a skilled Ph.D. candidate at KTH Royal Institute of Technology with over seven years of experience, I specialize in Machine Learning, Deep Learning, Graph Neural Networks, Natural Language Processing, Explainable Machine Learning, and Conformal Prediction. My research focuses on Trustworthy Machine Learning, particularly in explainability, Conformal Prediction, and Graph Neural Networks. Additionally, I have hands-on experience with Natural Language Processing, Language Modeling, and Transformers. I am eager to bring my problem-solving abilities, teamwork skills, and extensive knowledge to your company. I look forward to contributing to your team while continuing to grow professionally.

EXPERIENCE

Ph.D. Candidate

KTH Royal Institute of Technology

Feb 2021 – Present

Stockholm, Sweden

- Conducted research on Trustworthy Machine Learning, mainly on Explainable Machine Learning and Conformal Prediction
- Developed novel algorithms to ensure the interpretability and accuracy of predictions
- Published the findings in 8 peer-reviewed papers and presented the results at international conferences

AI Research Engineer

Mendel AI

Nov 2017 – Jan 2021

San Jose, CA, USA (Remotely)

- Trained and optimized deep learning models for named entity recognition, sequence tagging, and text classification
- Developed a semantic search engine with a spelling error-resilient autocomplete system
- Developed machine translation models using RNNs, language models, and statistical machine translation systems
- Collaborated in product development using Java and tackled data processing challenges with Python
- Gained expertise in SQL databases, Google Cloud Platform, data acquisition and processing with SparkSQL and Apache Spark

Data Scientist

IST Networks

Jan 2017 – Nov 2017

Cairo, Egypt

- Conducted sentiment analysis on customer reviews about banking services, achieving state-of-the-art performance
- Developed a text pronunciation disambiguation system for a commercial text-to-speech application

Research Assistant

Nile University

Sep 2016 – Mar 2017

Cairo, Egypt

- Developed an emotional tone detection algorithm for tweets using Convolutional Neural Networks

EDUCATION

KTH Royal Institute of Technology

Ph.D. in Computer Science, Machine Learning

Stockholm, Sweden

2021 – 2024

Nile University

M.Sc. in Information and Communication Technology

Cairo, Egypt

2016 – 2018

TECHNICAL SKILLS

Machine Learning: Explainable AI, Conformal Prediction, Graph Neural Networks, NLP, Language Models, Transformers

Programming: Python, Java, SQL

Frameworks: PyTorch, Keras, Pandas, Scikit-learn, Numpy

Tools: Google Cloud Platform, Apache Spark, SparkSQL, Git

AWARDS

Alexey Chervonenkis Best Student Paper Award

COPA conference
2023

WASP Scholarship Fully funded by the Knut and Alice Wallenberg Foundation

WASP-Sweden
2020

SELECTED PUBLICATIONS

- Amr Alkhatib, Sofiane Ennadir, Henrik Boström, and Michalis Vazirgiannis. "Interpretable Graph Neural Networks for Tabular Data". In: **ICLR 2024** DMLR Workshop, and accepted for presentation at the 27th European Conference on Artificial Intelligence (**ECAI 2024**)
- Amr Alkhatib, Henrik Boström, Sofiane Ennadir, and Ulf Johansson. "Approximating Score-based Explanation Techniques Using Conformal Regression". In: **COPA 2023**
- Sofiane Ennadir, Amr Alkhatib, Giannis Nikolentzos, Michalis Vazirgiannis, and Henrik Boström. "UnboundAttack: Generating Unbounded Adversarial Attacks to Graph Neural Networks". In: **Complex Networks & Their Applications XII**
- Amr Alkhatib, Henrik Boström, and Michalis Vazirgiannis. "Explaining Predictions by Characteristic Rules". In: **ECML PKDD 2022**
- Amr Al-Khatib and Samhaa R. El-Beltagy. "Emotional Tone Detection in Arabic Tweets". In: **CICLing 2018**

ACADEMIC ACTIVITIES

REVIEWER FOR

ECML-PKDD, ECAI, Machine Learning Journal

REFERENCES

- Prof. Henrik Boström – KTH: bostromh@kth.se
- Prof. Michalis Vazirgiannis – KTH & Ecole Polytechnique: mvaz@kth.se