

Mubashara Akhtar

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SCIENTIFIC INTERESTS

automated fact-checking, multimodal reasoning, benchmarking & evaluation, evidence retrieval for fact verification, language modeling, numerical reasoning with LMs

EDUCATION

PhD in Natural Language Processing, King's College London since Oct 2020

- Advisor: [Prof. Elena Simperl](#), [Dr. Oana Cocarascu](#)
- Focus: multimodal fact-checking, language grounding with visual & semi-structured data, language modeling, self-supervised/in-context learning for fact-checking evaluation
- Expected Graduation: May, 2024

BSc & MSc in Computer Science, Technical University of Vienna Oct 2011 - Jan 2020

- Grade Master's Degree: 1.6
- Grade Bachelor Degree: 2.1
- Thesis: "Evaluation of User Interaction in the Telecommunication Industry"

WORK EXPERIENCE

Student Researcher, Google Deepmind since July 2023

- Hosts: [Julian Eisenschlos](#), [Jonas Pfeiffer](#)
- Focus: Multimodal and multidocument reasoning with LLMs

Visiting PhD student, University of Cambridge Jan - June 2023

- Host: [Prof. Andreas Vlachos](#)
- Visiting the [NLP research group](#)
- Focus: LM-based evaluation of evidence retrieval for automated fact-checking

Teaching Assistant, King's College London Sept 2021 - Dec 2022

- Course: Python programming for data scientists
- Responsibilities: coursework co-design, lab supervision, marking of programming projects

Data Scientist, Mayato AT (Darmstadt, Germany) Jan 2019 - Sept 2020

- German smart speaker project for Europe's largest telecom provider, **Deutsche Telekom AG**
- Language model development for recognising users' intents given interactions with the smart speaker
- Technologies: Python (PyTorch, transformers, scikit-learn, nltk, etc.), MS LUIS, Git, etc.

Java Software Engineer, Ebcont GmbH (Vienna, Austria) Oct 2017 - Dec 2018

- Developed a fraud detection tool for Austrian Ministry of Finance
- Technologies: Java, Openshift, Microservices, Camunda, Spring Boot, Maven, Hibernate

Research Assistant, TU Wien (Vienna, Austria) Feb 2017 - Dec 2017

- Machine learning project in cooperation with telecom company, T-Mobile Austria
- Researched on user modelling and clickstream prediction; reported to head of data lab at T-Mobile

Statistics Consultant, UNIDO (Vienna, Austria)

Sept 2015 - Dec 2015

- Analysed trends in the manufacturing industry in MENA countries
- Reported to chief statistician at the United Nations Industrial Development Organisation (UNIDO)

Teaching Assistant, TU Wien (Vienna, Austria)

Mar 2014 - July 2014

- Institute of Computer Graphics & Algorithms; Institute of Statistics & Math. Methods in Economics
- Teaching groups of 20 students; prepared and reviewed math and programming assignments/labs

PUBLICATIONS

Exploring the Numerical Reasoning Capabilities of Language Models: A Comprehensive Analysis on Tabular Data.

Mubashara Akhtar, Abhilash Shankarampeta, Vivek Gupta, Arpit Patil, Oana Cocarascu, Elena Simperl.

Under review at EMNLP 2023.

ChartCheck: An Evidence-Based Fact-Checking Dataset over Real-World Chart Images.

Mubashara Akhtar, Nikesh Subedi, Vivek Gupta, Sahar Tahmasebi, Oana Cocarascu, Elena Simperl.

Under review at EMNLP 2023.

Multimodal Automated Fact-Checking: A Survey.

Mubashara Akhtar, Zhijiang Guo, Michael Schlichtkrull, Oana Cocarascu, Elena Simperl, Andreas Vlachos.

arXiv 2023. Under review at EMNLP 2023.

Reading and Reasoning over Chart Images for Evidence-based Automated Fact-Checking.

Mubashara Akhtar, Oana Cocarascu, Elena Simperl.

EACL 2023 (Findings).

PubHealthTab: A Public Health Table-based Dataset for Evidence-based Fact Checking.

Mubashara Akhtar, Oana Cocarascu, Elena Simperl.

NAACL 2022 (Findings).

Evaluation of User Interaction in the Telecommunication Industry.

Mubashara Akhtar.

Thesis, TU Wien (2019)

The Potential of Chatbots: Analysis of Chatbot Conversations.

Mubashara Akhtar, Julia Neidhardt, Hannes Werthner.

IEEE Conference on Business Informatics 2019 (CBI).

GRANTS & AWARDS

- Research Impact Award, King’s College London NMES PhD competition, 2023
- King’s College London NMES Faculty Studentship, 2020-2024
- [European Forum Alpbach](#) scholarship for the years 2020/21 (5% acceptance rate), 2020
- US Embassy of Austria’s Austria to Austin Entrepreneurship program, 2019
- [Ban Ki-moon Center for Global Citizens](#) mentorship (mentored by TU Wien vice-rector), 2019
- Research scholarship from TU Wien for master’s thesis, 2017
- ACM RecSys summer school and conference grant from TU Wien, 2017
- Merit-based scholarship from TU Wien, 2012-2016
- Top 1% with 1.0 grade at Austrian high school final exam (summa cum laude)

SERVICE & SCIENTIFIC EXPERIENCE

Organization committee FEVER 6.0 workshop , co-located with EACL 2023	since Oct 2022
Organisation King's College London KG Lab's weekly seminar group	Dec 2020 - Dec 2022
Teaching Assistant, Oxford Machine Learning Summer School	July 2021
Organization Women in ML (WiML) Workshop at NeurIPS 2020	Dec 2020
ACM Summer School on Recommender Systems	Aug 2017

EXTRA-CURRICULAR

President, Club Alpbach London	since Oct 2022
Board member, Club Alpbach Vienna	Oct 2020 - Sept 2022
Scouts leader and board member, Scouts in Austria	since 2013

QUALIFICATIONS & SKILLS

Technical Competences

- Programming (expert): Python (PyTorch, Huggingface transformers, spaCy, scikit-learn, etc.), R, Java (Hibernate, Maven, Spring Boot, Mockito, Elasticsearch, JSF, etc.)
- Programming (experience): C#, JavaScript, HTML
- Other: AWS, Openshift Cloud, Git, PostgreSQL, MongoDB, Amazon Mechanical Turk, Scrum

Languages: native in German and Urdu; fluent in English; advanced in Latin; beginner in French