

Mohammad Zeineldeen

Education

- 01/2020–present **Ph.D. candidate in Computer Science**, RWTH Aachen University, Aachen, Germany.
- 10/2017–11/2019 **M.Sc. in Computer Science**, RWTH Aachen University, Aachen, Germany.
German GPA: 1.4 (very good - US Equivalent 3.7).
Master thesis: Layer Normalization Variants and Multiplicative LSTMs.
- 09/2014–06/2017 **B.Sc. in Computer Science**, American University of Beirut, Beirut, Lebanon.
GPA: 3.7 with distinction.
Bachelor thesis: Image search using text query

Selected Publications

- 2021 **M. Zeineldeen**, A. Glushko, W. Michel, A. Zeyer, R. Schlüter, and H. Ney. *Investigating Methods to Improve Language Model Integration for Attention-based Encoder-Decoder ASR Models*. In Interspeech, August 2021
- 2021 N. Rossenbach, **M. Zeineldeen**, B. Hilmes, R. Schlüter, and H. Ney. *Comparing the Benefit of Synthetic Training Data for Various Automatic Speech Recognition Architectures*. In ASRU, December 2021. To appear.
- 2021 W. Zhou, **M. Zeineldeen**, Z. Zheng, R. Schlüter, and H. Ney. *Acoustic Data-Driven Subword Modeling for End-to-End Speech Recognition*. In Interspeech, August 2021

Work Experience

- 01/2020–present **Speech Scientist**, AppTek, Aachen, Germany.
 - Building competitive speech recognition systems (Hybrid NN-HMM, attention) on in-house data
 - Improving Arabic MSA and dialect speech recognition systems
- 04/2020–present **Teaching Assistant**, RWTH Aachen University, Aachen, Germany.
Seminars, bachelor/master thesis supervision
- 06/2017–09/2017 **Software Developer**, InteractiveLife, Beirut, Lebanon.
Refactoring the code's network framework to use Google's Volley library

Research Experience

- 01/2020–present **Research Assistant**, Human Language Technology and Pattern Recognition Group, RWTH Aachen University, Germany.
 - Proposed better ways to integrate language models for attention encoder-decoder ASR models
 - Built state-of-the-art attention system on LibriSpeech-100h using synthetic data
- 06/2022–09/2022 **Student Researcher**, Google, Germany.
Worked as a research intern with Google speech team on improving knowledge distillation for RNN-T ASR models especially in the case of bad teacher models.
- 07/2018–12/2019 **Student Research Assistant**, Human Language Technology and Pattern Recognition Group, RWTH Aachen University, Germany.
 - Implemented different variants of Layer-normalized LSTM using TensorFlow
 - Improved RNN-based machine translation systems using multiplicate LSTMs

Projects

2021–present **i6 ASR Recipes**, *RWTH Aachen University*, Aachen, Germany.
Building automated training and recognition pipelines for ASR systems (code)

2021–present **HYKIST**, *RWTH Aachen University*, Aachen, Germany.

- Project to facilitate communication between non-native speakers and doctors in hospitals in Germany using speech translation systems
- Building the Arabic ASR system

02/2016–05/2016 **HopIn**, *American University of Beirut*, Beirut, Lebanon.

Developed an Android carpooling application on a team for a Software Engineering course (code)

Activities

2020–present **Reviewer**: ICASSP, INTERSPEECH, ASRU

2017 **Future Developer Summer Camp**, *American University of Beirut*, Beirut, Lebanon.

Participated as the main instructor in preparing the slides for a beginner Android course and teaching it for school students

2017 **Art Therapy Community-based Project**, Beirut, Lebanon.

Using art therapy to tackle the increase of negative coping mechanisms among children in poor neighborhoods in Beirut and its surroundings

Awards

2014–2017 **USAID Scholarship**.

Awarded a full scholarship to study B.Sc. in Computer Science at the American University of Beirut.

2014–2017 Placed three times on the **Dean's Honor List** (American University of Beirut)

09/2016 **ACM - Lebanese Collegiate Programming Contest (LCPC)**.

Won the 1st place (Team name: 1729).

Computer skills

Programming Python, TensorFlow, Keras, C++, Bash, \LaTeX

ML/DL Frameworks TensorFlow, RETURNN

Languages

Arabic Mother language

English Full professional proficiency

German Limited working proficiency