Pooneh Mousavi

Contact Information

Github: `poonehmousavi`   *E-mail:* `mousavi.pooneh@gmail.com`
Linkedin: `pooneh-mousavi-linkdin` *Webpage:* `pooneh-mousavi`

EDUCATION

Ph.D. Candidate in Computer Science   2022 - present
Concordia University and Mila, Montreal, Quebec, Canada
GPA: **4** out of **4**
Mentor: Mirco Ravanelli
Research Interests: Multimodal Foundation Models, Audio Representation Learning, Speech Processing

M.S. in Computer Science   2018 - 2021
University of Texas at Dallas, Dallas, TX
GPA: **3.9** out of **4**

BSc. in Computer Engineering   2009 - 2013
K. N. Toosi University of Technology (KNTU), Tehran, Iran

PUBLICATION

*What Are They Doing? Joint Audio-Speech Co-Reasoning Y Wang, **P Mousavi**, A Ploujnikov, M Ravanelli pdf (ICASSP 2025).*

How Should We Extract Discrete Audio Tokens from Self-Supervised Models? **Pooneh Mousavi**, *Jarod Duret and , Salah Zaiem, Luca Della Libera, Artem Ploujnikov, Cem Subakan, Mirco Ravanelli, pdf (Proc. of Interspeech, 2024, oral session).*

DASB - Discrete Audio and Speech Benchmark. **Pooneh Mousavi**, *Luca Della Libera, Jarod Duret, Artem Ploujnikov, Cem Subakan, Mirco Ravanelli, pdf*

CL-MASR: A Continual Learning Benchmark for Multilingual ASR. Luca Della Libera*, **Pooneh Mousavi***, *Salah Zaiem, Cem Subakan, Mirco Ravanelli, (TASLP 2024), pdf.*

Open-Source Conversational AI with SpeechBrain 1.0.(JMLR 2024), pdf.

WOODS: Benchmarks for Out-of-Distribution Generalization in Time Series. Jean-Christophe Gagnon-Audet, Kartik Ahuja, Mohammad Javad Darvishi Bayazi, **Pooneh Mousavi**, *Guillaume Dumas, Irina Rish (TMLR 2023), pdf.*

Detecting Hashtag Hijacking for Hashtag Activism. **Pooneh Mousavi**, *Jessica Ouyang (NLP for Positive Impact (EMNLP 2021)), pdf.*

"Please Donate for the Affected": Supporting Emergency Managers in Finding Volunteers and Donations in Twitter Across Disasters. **Pooneh Mousavi**, *Cody Buntain (ISCRAM 2022), pdf.*

RESEARCH EXPERIENCE

Research Assistant   Sep 2022 - Now
MILA - Quebec AI Institute, Concordia University
Mentor: Dr. Mirco Ravanelli

- Contributed to **SpeechBrain** project, a popular open-source Conversational AI toolkit, for ASR CommonVoice recipes, dialogue systems, interface with LLMs including LLama2 and GPT, discrete audio representations and multilingual ASR continual learning benchmark.
- Working on discrete self-supervised learning, diffusion models for speech tasks, and multimodal foundation models.

Machine Learning Scientist in Residence May 2023 - Aug 2023
Draft & Goal, MILA - IVADO
Mentor: Dr. Eva Portlance
- Efficient fine-tuning LLM like Falcon and Llama2 for specific applications using QLoRA

Research Scientist 10/2021 - 08/2022
The Ubiquitous Knowledge Processing Lab, Technische Universität Darmstadt, Germany
Mentor: Prof. Dr. Iryna Gurevych
- Applying ML and NLP for **"AI In Digital Mental Health"** project.
- Severely **missing** multimodal data for effective analytics

Graduate Research Assistant 2018 - 2024
University of Texas at Dallas, Dallas, TX
Mentor : Dr. Jessica Ouyang
- Working with Social media data and Natural Language Processing techniques for detecting hashtag hijacking on Twitter.

PROFESSIONAL EXPERIENCE

Data Science - Technology Solutions Intern 01/2021 - 05/2021
Pioneer Natural Resources, Dallas, TX,US
- Designed an algorithmic framework for real time **anomaly detection** alert of the Electric Submersible Pump on **time-series data** using **LSTM**, **Transformers** and **AR models**

Full Stack Developer, Technical Lead 2014 - 2018
Dotis Arian Gheshm (Dotin), Tehran, Iran
- Designed and implemented **Payment Switch Service Provider** to provide user interface and API for clients and external applications with the TPS of 100 with 10M Clients using **MicroServices Architecture** and **Rich Internet Application (RIA)**

WORKSHOP PARTICIPATION

Qiskit Quantum Machine Learning Summer School 2021
Qiskit Global Summer School 2021, Online

The Machine Learning Summer School 2020
Max Planck Institute for Intelligent Systems, Tübingen, Germany

The Summer Institutes in Computational Social Science 2020
Rutgers University, New Brunswick, NJ

TEACHING EXPERIENCE

- Teaching Assistant - Conversational AI, Concordia University 2023-2024

- Teaching Assistant, University of Texas at Dallas (UTD) 2018-2020

LANGUAGES, TECHNOLOGIES

- *Programming Languages: Python • Typescript • OCaml • C++ • Scala • Javascript • Java • SQL*

- *Technologies: PyTorch • Keras/TensorFlow • Git • Docker • Bazel • Docker • Kubernetes • Jenkins • Maven • Ansible*