

DR. MERYEM M'HAMDI

Applied NLP and ML Researcher for Driving Academic & Business Impact

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EXPERIENCE

Data Scientist II (Full-Time)

Bing Multimedia, Microsoft AI, Microsoft

March 2024 - Present Redmond, WA, USA

- LLM-based evaluation for recommendation systems and ranking.

Data & Applied Scientist Ph.D. Intern

Bing Multimedia, WebXT, Microsoft

May 2023 - Aug 2023 Redmond, WA, USA

- Applied research on improving the Bing image ranker by building from scratch a deep-learning-based model to recommend candidate items to users. Managers: **Shikhar Sharma** and **Andrew McNamara**.

Research Assistant

Information Sciences Institute (ISI) - Uni of Southern California (USC)

Jan 2019 - May 2023 Marina Del Rey, CA, USA

- Research on cross-lingual transfer learning to downstream applications. Supervisor: Prof. **Jonathan May**.

Research Scientist Intern

NLP Group, Adobe Research

May 2022 - Aug 2022 San Jose, CA, USA

- Research on multilingual semantic search using meta-transfer learning and knowledge distillation. Mentors: **David Seunghyun Yoon**, **Trung Bui**, and **Franck Deroncourt**.

Natural Language Processing (NLP) Research Intern

NLP Group, Adobe Research

May 2020 - Nov 2020 Remote, USA

- Research on cross-lingual natural language understanding and question answering using meta-transfer learning. Mentors: **Doo Soon Kim**, **Franck Deroncourt**, and **Trung Bui**. Published Patent **US20230297603A1**.

Data Science Intern Master Thesis Student

Swisscom AG, Ecole Polytechnique Fédérale de Lausanne (EPFL) Labs

Feb 2018 - Sep 2018 Lausanne, Vaud, Switzerland

- Creation of an end-to-end library for the performance evaluation of multilingual embeddings across text classification, unsupervised event detection, and churn detection. Manager: **Claudiu Musat**.

NLP Intern

Speech and Sound Group, Sony EuTEC

Aug 2017 - Jan 2018 Stuttgart, BW, Germany

- Building a Seq2Seq (CNN/BiLSTM) model using NNABLA for intent prediction and slot filling. Supervisor: Mr. **Mark Blaxall**.

PROGRAMMING LANGUAGES & SKILLS

Python Java SQL C++ Matlab R C# Git

Natural Language Processing Machine Learning Data Mining

Deep Learning Pytorch Tensorflow Transformers

EDUCATION

Ph.D. in Computer Science

USC, USA

Jan 2019 - Jan 2024

- Research Interests: *NLP, Multilinguality, Information Extraction, Meta-Learning, Continual Learning, Human Learning.*
- GPA: 3.92/4.
- Thesis Title: **Towards More Human-Like Cross-Lingual Transfer Learning.**

M.Sc. in Computer Science

EPFL, Switzerland

Sep 2015 - Sep 2018

- Specialization: *Data Analytics.*
- GPA: 5.29/6.
- Thesis title: **Creation and evaluation of multilingual embeddings for downstream semantic tasks.**

Honors B.Sc. in Computer Science

Al Akhawayn University in Ifrane, Morocco

Aug 2011 - Jun 2015

- Minors: *Mathematics & Business Administration.*
- GPA: 3.91/4.
- Leadership Development Institute.
- Exchange program at GWU.

SELECT PUBLICATIONS

- M. M'hamdi, J. May, F. Deroncourt, T. Bui, and S. Yoon. Multilingual Meta-Distillation Alignment for Semantic Retrieval. Proc. SIGIR ACM 2024.*
- M. M'hamdi, and J. May. Leitner-Guided Memory Replay for Cross-lingual Continual Learning. Proc. NAACL 2024.*
- M. M'hamdi, X. Ren, and J. May. Cross-Lingual Continual Learning. Proc. ACL 2023.*
- M. M'hamdi, D. S. Kim, F. Deroncourt, T. Bui, X. Ren, and J. May. X-METRA-ADA: Cross-lingual Meta-Transfer Learning Adaptation to Natural Language Understanding and Question Answering. Proc. NAACL 2021.*
- M. M'hamdi, M. Freedman and J. May. Contextualized Cross-Lingual Event Trigger Extraction with Minimal Resources. Proc. CONLL 2019.*

RESEARCH PROJECTS

Cross-Lingual Information Extraction with Minimal Resources

NLP Group, ISI. PIs: Marjorie Freedman, Elizabeth Boschee

📅 Jan 2019 - May 2023

- Generated a contextualized cross-lingual event extraction system using transfer learning with BERT.
- Achieved better performance in event trigger detection using a language-independent approach compared to linguistic baselines.

Analysis of the Impact of Linguistic Processing on Large Scale Semantic Similarity

Artificial Intelligence (AI) Lab, EPFL. Prof. Martin Rajman

📅 Feb 2017 - Jun 2017

- Implemented a clean, debuggable, and efficient NLP pipeline for linguistic pre-processing, including an FSA-based lexical analysis, a morphological analyzer using FST, and a syntactic analyzer using CYK.

Estimation and Visualization of Canton-Level Moods using Hybrid Fine-Grained Emotion Analysis Methodologies

Distributed Information Systems (DIS) Lab, EPFL. Dr. Michel Catasta

📅 Nov 2016 - Jan 2017

- Built a platform for analyzing 12 million geolocated tweets.
- Created a dynamic emotion visualization tool using the D3.js library.

Fine Grained Emotion Recognition in Human Dialogs using Hybrid Methodologies

Human Computer Interaction (HCI) Group, EPFL. Prof. Pearl Pu

📅 Aug 2016 - Jan 2017

- Implemented a hybrid fine-grained emotion recognition system using syntactic analysis, semantic similarity, semi-supervised machine learning with domain adaptation, and human validation.

SOCIAL VOLUNTEERING

Volunteer in social center for elderly people

Foundation Mohamed V for Solidarity

📅 Jun 2014 - Aug 2014

- Assisted elderly individuals in their daily activities such as feeding, nursing, entertainment, and psychological therapy.

Tutor and Mentor in an elementary public school

The George Washington Student Association

📅 Sep 2013 - Dec 2013

- Coached children with learning difficulties with their homework.

LANGUAGES

Moroccan Darija
Standard Arabic
English
French
Spanish



NOTABLE ACTIVITIES

NLP Conferences Peer-Reviewer USC

📅 Apr 2020 - Present

- ACL'24, NAACL'24, EMNLP'23, ACL'23, EMNLP'22, NAACL'22, EMNLP'21, ACL'21, AACL'20.

Teaching Assistant

USC

📅 Aug 2020 - Dec 2020 & Aug 2023 - Dec 2023

- **Advanced NLP (CSCI-662)** (Prof. Jonathan May): Grading homework and projects, and holding office hours.
- **Data Structures & Object-Oriented Design (CSCI-104)** (Prof. Aaron Cote): Designing homework solutions, Piazza specialist, and holding office hours.

NL Seminar Organizer

ISI/USC

📅 Apr 2022 - Jan 2023

- Organized seminars hosting top NLP researchers.

SoCalNLP19 Student Co-Chair

ISI/USC

📅 Jan 2019 - Sep 2019

- Co-organized the 2nd Symposium in NLP and setting up a peer-review system.

AWARDS

- 2nd Best GPA in Computer Science, Class'15, Al Akhawayn University.
- 4 x President's List and 4 x Dean's List, Al Akhawayn University.
- Merit-based tuition scholarship, Al Akhawayn University.
- Regional merit-based scholarship for 1st best GPA in high school exam.

RECENT REFEREES

Prof. Jonathan May

@ ISI/USC

✉ jonmay@isi.edu

Shikhar Sharma

@ Microsoft

✉ Shikhar.Sharma@microsoft.com

Dr. Trung Bui

@ Adobe Research

✉ bui@adobe.com

Dr. Claudiu Musat

@ Google (Previous: Swisscom AG)

✉ claudiu.musat@gmail.com