

# MERYEM M'HAMDI

## PhD in Computer Science @ USC/ISI

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## EXPERIENCE

### Research Assistant

#### Information Sciences Institute (ISI) - University of Southern California (USC)

📅 Jan 2019 – Present

📍 Marina Del Rey, USA

- Research on cross-lingual transfer learning to downstream applications and universal multilingual representations, supervised by Prof. **Jonathan May**.

### Natural Language Processing (NLP) Research Intern

#### NLP Group, Adobe Research

📅 May 2020 - Nov 2020

📍 San Jose, USA

- Research on cross-lingual natural language understanding and question answering using meta transfer learning, mentored by Dr. **Doo Soon Kim**, **Franck Deroncourt**, and **Trung Bui**.

### Data Science Intern Master Thesis Student

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

📅 Feb 2018 – Sep 2018

📍 Lausanne, Switzerland

- Creation of end-to-end library for the performance evaluation of multilingual and monolingual embeddings across different text neural classification architectures, supervised by Dr. **Claudiu Musat**.
- Cross-lingual churn detection using transfer learning.
- Proposing new framework for cross-lingual unsupervised event detection using multilingual embeddings.

### NLP Intern

#### Speech and Sound Group, Sony EuTEC

📅 Aug 2017 – Jan 2018

📍 Stuttgart, Germany

- Implementation and performance evaluation of Seq2Seq (CNN/BiLSTM) model using NNABLA for conversational intent prediction and slot filling, supervised by Mr. **Mark Blaxall**.

## SKILL SETS



## PROGRAMMING LANGUAGES

Python

Java

SQL

C++

Matlab

R

C#

Golang

## EDUCATION

### PhD in Computer Science

#### USC, USA

📅 Jan 2019 – Jan 2024 (Expected)

Courses: Representation Learning, Natural Language Dialogue Systems, Representation Learning for NLP.

Women in Engineering (WiE) mentor.

### M.Sc. in Computer Science

#### EPFL, Switzerland

📅 Sep 2015 – Sep 2018

Specialization: *Data Analytics*.

### Honors B.Sc. in Computer Science

#### Al Akhawayn University in Ifrane, Morocco

📅 Aug 2011 – Jun 2015

GPA: **3.91/4**

Minors: *Business Administration & Mathematics*

Tuition merit-based scholarship

Leadership Development Institute Graduate

## PUBLICATIONS/ TALKS

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. (Approved for *Patent*)

M. M'hamdi and J. May. **TransMAXIE: A**

**Benchmark for Transfer Evaluation of**

**Cross-Lingual Alignment of Transformer**

**Embeddings for Information Extraction.** ISI

GSS 2020.

M. M'hamdi, M. Freedman and J. May.

**Contextualized Cross-Lingual Event Trigger**

**Extraction with Minimal Resources.** Proc.

CONLL 2019.

M. M'hamdi, R. West, A. Hossmann, M.

Baeriswyl and C. Musat. **Expanding Text**

**Classification Toolbox with Cross-lingual**

**Embeddings.** CoRR, abs/1903.09878.

C. Abbet, M. M'hamdi, A. Giannakopoulos, R.

West, A. Hossmann, M. Baeriswyl and C.

Musat. **Churn Intent Detection in**

**Multilingual Chatbot Conversations and**

**Social Media.** Proc. CONLL 2018.

## RESEARCH PROJECTS

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### Cross-Lingual Information Extraction with Minimal Resources

**NLP Group, ISI. PI: Marjorie Freedman, Elizabeth Boschee**

📅 Jan 2019 - Present

- Generated a contextualized cross-lingual event extraction system using transfer learning with BERT.
- Achieved a better performance in event trigger detection using a language-independent approach compared to linguistic baselines.
- Funded by AIDA (DARPA) and BETTER (IARPA) programs.

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

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

📅 Feb 2017 - Jun 2017

- Implementation of 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.
- Semantic similarity computation using expectation minimization.

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### Fine Grained Emotion Recognition in Human Dialogs using Hybrid Methodologies

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

📅 Aug 2016 - Jan 2017

- Implementing a hybrid fine-grained emotion recognition system using syntactic analysis and semantic similarity using Word2Vec and semi-supervised machine learning with domain adaptation.
- Design of a crowdsourcing experiment for the human validation of the emotion recognition methodology.

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### 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 2016

- Building a platform for analyzing 12M geolocated tweets.
- Creating interactive maps using D3.js library for visualizing distribution of emotions per canton and time interval.

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## SOCIAL VOLUNTEERING

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### Volunteer in social center for elderly people

**Foundation Mohamed V for Solidarity**

📅 Jun 2014 - Aug 2014

- Helping in day to day activities including feeding, nursing, entertainment and psychological therapy.

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### Tutor and Mentor in an elementary public school

**The George Washington Student Association**

📅 Sep 2013 - Dec 2013

- Helping children with learning difficulties with their homework.

## EXTRACURRICULAR ACTIVITIES

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### Organizing Committee Member

**Morocco.AI**

📅 Oct 2020 - Present

- Organizing webinars for Moroccan AI researchers.

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### Teaching Assistant

**University of Southern California**

📅 Aug 2020 - Dec 2020

- **Advanced NLP (CSCI-662)** with Prof. Jonathan May: Designing and grading homework and projects and holding office hours.

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### SoCalNLP19 Student Co-Chair

**University of Southern California**

📅 Jan 2019 - Sep 2019

- Co-organizing 2nd Symposium in NLP including setting up submission system and peer-reviews.

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### Teaching Assistant

**Ecole Polytechnique Fédérale de Lausanne**

📅 Sep 2016 - Jun 2017

- **Software Engineering (CS-305)**: Grading homework and exams and coaching teams developing Android applications.
- **Introduction to database systems (CS-322)**: Providing lab assistance.

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## RECENT REFEREES

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**Prof. Jonathan May**

@ University of Southern California

✉ jonmay@isi.edu

**Dr. Trung Bui**

@ Adobe Research, San Jose

✉ bui@adobe.com

**Dr. Franck Dernoncourt**

@ Adobe Research, San Jose

✉ franck.dernoncourt@gmail.com

**Dr. Claudiu Musat**

@ Swisscom AG, EPFL Digital Lab

✉ Claudiu.Musat@swisscom.com

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## LANGUAGES

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English  
French  
Arabic  
Spanish

