

# MERYEM M'HAMDI

PhD in Computer Science Student @ USC

@ meryemhamdi1@gmail.com    https://meryemhamdi1.github.io    in linkedin.com/in/meryem-m-hamdi-69964980/    github.com/meryemhamdi1

## EXPERIENCE

Research Assistant  
Information Sciences Institute - University of Southern California  
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.

Data Science Intern Master Thesis Student  
Swisscom AG, EPFL Digital Lab  
Feb 2018 – Sep 2018    Lausanne, Switzerland

- Creation of end-to-end library for the performance evaluation of different multilingual and monolingual embeddings across different text neural classification architectures.
- Extending churn detection to more languages using multilingual embeddings.
- Proposing new framework for cross-lingual unsupervised event detection using multilingual embeddings.

Natural Language Processing Intern  
Sony EuTEC, Speech and Sound Group  
Aug 2017 – Jan 2018    Stuttgart, Germany

- Implementation and performance evaluation of CNN model using NNABLA for conversational intent prediction.
- Implementation and performance evaluation of Seq2Seq model based on RNN for jointly learning intent prediction and slot filling in conversational agents.

Software Engineering Intern  
Swissquote  
Jul 2016 – Sep 2016    Gland, Switzerland

- Working as part of an agile team on specification, backend/frontend development and maintenance of Java banking applications.
- Development of a web admin application to book operations on financial products including options and events.

## SKILL SETS



## EDUCATION

PhD in Computer Science  
University of Southern California, USA  
Jan 2019 – Jan 2024 (Expected)

Relevant Courses: Advanced Algorithms, Representation Learning, Natural Language Dialogue Systems

M.Sc. in Computer Science  
Ecole Polytechnique Fédérale de Lausanne, Switzerland  
Sep 2015 – Sep 2018

Specialization: Data Analytics  
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

GPA: 3.91/4 Minor: Business Administration & Mathematics  
Tuition-based merit-based scholarship  
Leadership Development Institute Graduate  
Capstone Project: "A cloud-based solution for an e-health system adapted to Moroccan patients"

## PUBLICATIONS

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

## PROGRAMMING LANGUAGES

Python    Java    SQL    C++    Scala  
Matlab    R    C#    Golang    Javascript

## RESEARCH PROJECTS

### Contextualized Cross-Lingual Event Trigger Extraction with Minimal Resources

**Natural Language Processing Group, Information Sciences Institute**

📅 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

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

**Artificial Intelligence Laboratory, EPFL**

📅 Feb 2017 - Jun 2017

- Implementation of a clean, debuggable and efficient NLP pipeline for linguistic pre-processing:
  - FSA based lexical analysis.
  - Morphological analyzer using FST.
  - Syntactic analyzer using CYK.
- Semantic similarity computation using expectation minimization.

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

**Human Computer Interaction Group, EPFL**

📅 Aug 2016 - Jan 2016

- 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.

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

**Distributed Information Systems Laboratory, EPFL**

📅 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.

## SOCIAL VOLUNTEERING

### 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.

### 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

### SoCalNLP19 Student Co-Chair

**University of Southern California**

📅 Jan 2019 - Present

- Co-organizing 2nd Symposium in Natural Language Processing including setting up submission system, assigning and analyzing peer-reviews and other logistics.

### Teaching Assistant

**Ecole Polytechnique Fédérale de Lausanne**

📅 Sep 2016 - Jun 2017

- **Software Engineering (CS-305):** Grading homework and exams and working as a coach assistant for teams developing Android applications.
- **Introduction to database systems (CS-322):** Providing lab assistance.

## RECENT REFEREES

**Prof. Jonathan May**

@ University of Southern California

✉ jonmay@isi.edu

**Dr. Claudiu Musat**

@ Swisscom AG, EPFL Digital Lab

✉ Claudiu.Musat@swisscom.com

**Prof. Robert West**

@ Ecole Polytechnique Fédérale de Lausanne

✉ robert.west@epfl.ch

**Mr. Mark Blaxall**

@ Sony Europe Limited Deutschland  
Stuttgart Technology Center

✉ Mark.Blaxall@eu.sony.com

## LANGUAGES

English ●●●●●

French ●●●●●

Arabic ●●●●●

Spanish ●●●●●