

## EDUCATION

M.Sc. in Computer Science 2018 – 2020 (expected)  
**University of Alberta**, Edmonton, Alberta, Canada  
B.Sc. in Computer Software Engineering 2013 – 2018  
**Amirkabir University of Technology (Tehran Polytechnic)**, Tehran, Iran  
GPA: 17.2 / 20

## RESEARCH INTERESTS

I believe Language to be quite a fascinating phenomenon and I am very passionate about studying it. Whether it's Linguistics, the philosophical aspects of language understanding in the human mind or even the history of languages. I'm also interested in learning to speak new languages and look into their differences and similarities. That said, since I'm in computer science, my interest is in the computational analysis of different aspects of natural language using Linguistics.

## RESEARCH EXPERIENCES

2019 | **Master's Thesis Project**

Under the supervision of Dr. Kondrak | University of Alberta

### **Homonym Hunting**

So far in this project, I've been working on parallel corpora and resources like BabelNet and WordNet and exploring different methods to identify homonymous words.

2018 | **Summer Research Internship**

Under the supervision of Dr. Xu | University of Toronto

### **Chaining and the Growth of Linguistic Categories [github]**

We explored how linguistic categories extend over time as novel items are assigned to existing categories. As a case study we considered how Chinese numeral classifiers were extended to emerging nouns over the past half century.

2017 – 2018 | **Research Assistant**

Under the supervision of Dr. Batista-Navarro | The University of Manchester

### **Causal Relations Extraction**

This was my first project in NLP when I was an undergrad student. The goal here was to develop an NLP-based tool for extracting causal relations from environmental science literature. Machine Learning techniques will be used afterward, on a corpus that we've annotated its causal relations.

2017 – 2018 | **B.Sc. Thesis Project**

Under the supervision of Dr. Momtazi | Amirkabir University of Technology

### **Question Type and Topic Classification in Community Question Answering [github]**

I used Machine Learning techniques in this project to determine the type and the category of questions so they can be more easily tagged and classified. There has not been much work done on this topic in the Persian language so the resulting tool can be quite useful in Persian Q&A websites.

## PUBLICATIONS & SUBMITTED PAPERS

2019

Bradley Hauer | Amir Ahmad Habibi | Yixing Luan | Rashed Rubby Riyadh | Grzegorz Kondrak

**Cognate Projection for Low-Resource Inflection Generation** [\[link\]](#)

Proceedings of the 16th Workshop on Computational Research in Phonetics, Phonology, and Morphology, pages 6-11, Florence, Italy.

2019

Amir Ahmad Habibi | Charles Kemp | Yang Xu

**Chaining and the Growth of Linguistic Categories**

(submitted)

2018

Amir Ahmad Habibi | Saeedeh Momtazi

**Types for Topics and Topics for Types: A Joint Question Type-Topic Classification in Community Question Answering**

(submitted)

## TEACHING ASSISTANTSHIP

Intro to Foundations of Computation II

CS dep., University of Alberta

Fall 2018 & Winter & Fall 2019

Design of Algorithms Course

CS dep., Amirkabir University of Technology

Winter-Spring 2017

Advanced Computer Programming Course

CEIT dep., Amirkabir University of Technology

Winter-Spring 2017

Design of Programming Languages Course

CEIT dep., Amirkabir University of Technology

Fall 2016

Operating Systems Design Course

CEIT dep., Amirkabir University of Technology

Fall 2016

## PRESENTATIONS

Dec 2018 | CS dep., University of Alberta.

**Bilingual Lexicon Induction on Low-Resource Languages** [\[link to slides\]](#)

A presentation for my NLP course project, on using a parallel corpus of the Bible to obtain cognates and then using those, along with word embeddings, to achieve a bilingual lexicon.

Aug 2018 | D.L. Pratt, CS dep., University of Toronto.

**Chaining & Historical Growth of Linguistic Categories** [\[link to slides\]](#)

A presentation on the project that Dr. Xu and I were working on, mostly during the summer at the University of Toronto.

Apr 2019 | CS dep., University of Alberta.

**Game Theory for Morality** [\[link to slides\]](#)

A presentation for my Game Theory course on a paper about the study of ethics in Game Theory.

May 2017 | CEIT dep., Amirkabir University of Technology.

**Intro to Natural Language Processing** [\[link to pdf\]](#)

A presentation (in Persian) for *Data Mining* course about the general concept of NLP and approaches towards natural language understanding in AI.

October 2017 | Khayyam bld., Amirkabir University of Technology.

### **AI and Consciousness** [\[link to pdf\]](#)

A presentation (in Persian) about the future of AI development and its impact on our notion of the human mind and body, the Dualism theory etc.

## **TOP ACADEMIC COURSE PROJECTS**

Fall 2018 | Bilingual Lexicon Induction on Low-Resource Languages

Working with parallel corpora and word embeddings using Python, *Natural Language Processing*

Spring 2017 | Unsupervised Learning: Association Rule Mining

Regression, Classification etc. using Python and RapidMiner, *Foundations of Data Mining*

Fall 2016 | Design and implementation of a smart Pacman agent

Local search algorithms, Optimization algorithms like GA using Python, *Artificial Intelligence*

Spring 2016 | Design and implementation of a simple healthcare database system

Using MySQL and Python, *Principles of Database Design*

Fall 2015 | Process Migration on XV6, Process scheduling and Pipeline

Using C, *Operating Systems*

Fall 2015 | Implementation of the MIPS architecture

Using VHDL, *Computer Architecture Lab*

Spring 2015 | Design and implementation of a basic search engine

TF-IDF, Clustering and Searching in text using Java, *Data Storage and Retrieval*

Spring 2014 | Implementation of a 2d strategic game with multi-player support

Multi-threading using Java, *Advanced Computer Programming*

## **HONORS AND AWARDS**

Summer 2013

Ranked top 0.3% in the National University Entrance Exam

In more than 250'000 participants

Winter 2014

3rd place, SBU Programming Contest, Shahid Beheshti University

As a member of the team of Amirkabir University of tech.

## **OTHER EXPERIENCE AND SKILLS**

### **Dev Stack:**

Python, Java, C/C++, Also familiar with MySQL and Microsoft SQL Server

### **Natural Language & Data Analysis Tools and Frameworks:**

NLTK, Gensim, fast\_align, Weka, Meka, Scikit, Pandas, GENIA

### **Resources and Datasets:**

BabelNet, WordNet, Google Ngrams, MultiWordNet, MultiSemCor, EuroParl, OPUS

### **Reviewed for:**

EMNLP 2019

### **Languages:**

Farsi (Native) & English (TOEFL: 106/120)

## OTHER INTERESTS AND ACTIVITIES

In my free time, I am a graphic designer and I've done plenty of poster and logo designs during my college years. You can find a few of my latest logo designs in [dribbble.com/AmirAhmadHabibi](https://dribbble.com/AmirAhmadHabibi).

I also like photography, which I've been doing for some time, especially when traveling. I'm interested in taking photos of architectures and buildings, natural landscapes and animals, and people. You can check my Instagram account (@amir\_ahmad\_habibi) for some of those.

Moreover, I like to read poems as well as novels and fictions and books in philosophy and history, which is partly the reason for my interest in Linguistics.

## REFERENCES

**Dr. Greg Kondrak, Professor**

Computing Science department, University of Alberta

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**Dr. Saeedeh Momtazi, Assistant Professor**

Computer Engineering and IT department, Amirkabir University of Technology

[momtazi@aut.ac.ir](mailto:momtazi@aut.ac.ir)

**Dr. Yang Xu, Assistant Professor**

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**Dr. Ehsan Nazerfard, Assistant Professor**

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**Dr. Riza Theresa Batista-Navarro, Lecturer**

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