AMIR AHMAD **HABIBI** (Oct. 2019)

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EDUCATION

M.Sc. in Computer Science   2018 – 2020 (expected)
University of Alberta

B.Sc. in Computer Software Engineering   2013 – 2018
Amirkabir University of Technology (Tehran Polytechnic)
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, I'm interested 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 | The University of Alberta
Homonym Hunting
I'm working on this as my master's thesis project. So far, 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 | The 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 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. Final 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

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
(under review)

2018
Amir Ahmad Habibi | Saeedeh Momtazi
Types for Topics and Topics for Types: A Joint Question Type-Topic Classification in Community Question Answering
(under review)

TEACHING ASSISTANTSHIP

Intro to Foundations of Computation II   Fall 2018 & Winter & Fall 2019
CS dep., University of Alberta

Design of Algorithms Course   Winter-Spring 2017
CS dep., Amirkabir University of Technology

Advanced Computer Programming Course   Winter-Spring 2017
CEIT dep., Amirkabir University of Technology

Design of Programming Languages Course   Fall 2016
CEIT dep., Amirkabir University of Technology

Operating Systems Design Course   Fall 2016
CEIT dep., Amirkabir University of Technology

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.
What is 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

Bilingual Lexicon Induction on Low-Resource Languages   Fall 2018
Working with parallel corpora and word embeddings using Python, *Natural Language Processing*

Unsupervised Learning: Association Rule Mining   Spring 2017
Regression, Classification etc. using Python and RapidMiner, *Foundations of Data Mining*

Design and implementation of a smart Pacman agent   Fall 2016
Local search algorithms, Optimization algorithms like GA using Python, *Artificial Intelligence*

Design and implementation of a simple healthcare database system   Spring 2016
Using MySQL and Python, *Principles of Database Design*

Process Migration on XV6, Process scheduling and Pipeline   Fall 2015
Using C, *Operating Systems*

Implementation of the MIPS architecture   Fall 2015
Using VHDL, *Computer Architecture Lab*

Design and implementation of a basic search engine   Spring 2015
TF-IDF, Clustering and Searching in text using Java, *Data Storage and Retrieval*

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

MISCELANIOUS

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

Natural Language & Data Analysis Tools and Frameworks:
Weka, Meka, Scikit, Pandas, NLTK, GENIA, Gensim, fast_align

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.

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

Saeedeh Momtazi, Assistant Professor
Computer Engineering and IT department, Amirkabir University of Technology
momtazi@aut.ac.ir

Yang Xu, Assistant Professor
Department of Computer Science, University of Toronto
yangxu@cs.toronto.edu

Riza Theresa Batista-Navarro, Lecturer
School of Computer Science, The University of Manchester
riza.batista@manchester.ac.uk

Ehsan Nazerfard, Assistant Professor
Computer Engineering and IT department, Amirkabir University of Technology
nazerfard@aut.ac.ir

Mehran S. Fallah, Associate Professor
Computer Engineering and IT department, Amirkabir University of Technology
msfallah@aut.ac.ir