Seyedarian Hosseni

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Education

◇ **Iran University of Science and Technology** 2013 - Present.

· B.Sc: Computer Engineering student, Software Major
Ranked **First** among the entire university computer engineering students
Total GPA (6 Semesters) : 19.13/20
IUST is ranked among top 3 universities in Iran.
Selected Courses: Ask Ehsan?

◇ **Pre-University Degree in Physics and Mathematic.** 2012-2013.
Saadat HighSchool and Pre-University, Fars,
Ranked First
GPA: 19.98/20

◇ **Diploma in Physics and Mathematic**. 2009-2012.
Saadat HighSchool and Pre-University, Fars,
Ranked First
GPA: 19.90/20

Research Interests

◇ ..

· Natural Language Processing/Computational Linguistics
· Deep Learning in Natural Language Processing
· Question Answering and Reading Comprehension
· Machine Translation
· Distributed Representations of Language Units

Awards and Honors

◇ Awarded **Outstanding Student** Certificate and Prize by Iran University of Science and Technology President – 2014 and 2015.

◇ Ranked **First** among the entire university computer engineering students – 2013-present

◇ Ranked among Top 1% Participant in Iran's National University Entrance Exam (+500000 Participants) – 2013

◇ Four years grant for undergraduate studies from the **Iranian National Foundation of Elites**.

◇ Online Course Statement of Accomplishment, **Machine Learning** Course by Prof. Andrew Ng, Stanford University through **Coursera**. – 2014

◇ Honored for outstanding performance at Computer Engineering Department Student Association (CESA). CESA is a student committee concerned with directing the department's extra-curriculum activities

Research Experience

◇ **Intern Researcher in Deep Natural Language Processing** (June 2016 - Present),
Supervised by Hinrich Schutze, **The Center for Information and Language Processing, Ludwig Maximilian University of Munich, Germany**.
Working on various deep neural networks for Question Answering

◇ **Collaborating with Life Language Processing at UC Berkeley** (June 2016 - Present),
Life Language Processing: applications of deep language processing for processing of biological sequences (DNA, RNA, and protein). I work with **E. Asgari**

◇ **Research Assistant** (January 2016 - June 2016),
Supervised by Dr. Behrouz Minaei, **Machine Learning & Data Mining Lab, Computer Engineering Department, Iran University of Science and Technology**.

Research and Publications

◇ **Exploration of various deep neural networks for Question Answering** (2016),
Status: In progress
Sascha Rothe, SeyedArian Hosseini, Hinrich Shuetze.

Various deep models such as seq2seq with different kinds of attention mechanisms, pointer networks and sequence scorers are being studied on the recently released dataset, Stanford Question Answering Dataset (SQuAD). For more info check here.
This project is implemented using Blocks and Theano.

◇ **Beatrix: Analysis of Persian Poetry using Language Models** (2016),
Status: Finished
SeyedArian Hosseini, Behrouz Minaei.

In this project, we tried to create a Language Model that not only focuses on what is being written, but how it's written, which in poetry means that the model learns both orthographic and phonological features. This project is implemented in Keras and Theano.

◇ **Iris: Persian Named Entity Tagger** (2016),
Status: Finished
SeyedArian Hosseini, Behrouz Minaei.

In this project different techniques, methods, discuss design challenges, misconceptions and features which underline the development of an efficient and robust NER system are explained. Iris: the Farsi named entity recognizer agent which is based on statistical distribution techniques and machine learning methods. Iris uses techniques corresponding to natural language processing and Farsi words and sentences' syntax and structure. This agent was developed as a project for AI course. It is now actively integrated into and used in *Acas* (see below).

◇ **Alefba: Persian Optical Character Recognition System** (2015-2016),
Status: Finished
Alireza Nourian, Arian Hosseini, Abolfazl Mehdizade, Sohan Ajini (Machine Learning and Data Mining Lab, CE Dept, Iran University of Science and Technology).

Our model takes advantage of Convolutional Layers for feature extraction, Bi-Directional LSTMs and Connectionist Temporal Classification (CTC) cost to label sequences. we also constructed a large dataset using several different fonts. We also added noise to this artificial dataset in order to have a higher semblance to real noisy images.

Skills

◇ **Programming and Scripting**: Python, Java, Scala, C,C++, Matlab, Octave, JavaScript, Swift
◇ **Web/DB Technologies**: HTML, CSS, Django, Flask, NodeJS, AngularJS, MYSQL, MongoDB, Redis
◇ **Tools and Frameworks**: Theano - TensorFlow - Blocks - Fuel - Keras
◇ **OS, Version Control and Issue Tracking**: Linux family - OS X - Git - Taiga - Jira
◇ **Hardware Description Languages/Micro-controller**: Verilog, AVR (Code-Vision)
◇ **Typesetting**: LaTeX, Markdown
◇ **Languages**: Persian (Native), English (Fluent)

· **TOEFL iBT Score**: 111 (Reading: 27, Listening: 30, Speaking: 27, Writing: 27)

· **GRE Scores**: Quantative: 169 , Verbal: 153 , Analytical Writing: 4

Teaching Experience and Talks

- **Teaching Assistant for Computer Architecture** (Fall 2015),
  instructor: Dr. Mohsen Soriani
- **Teaching Assistant for Discrete Mathematics** (Spring 2015),
  instructor: Dr. Hasan Naderi
- **Teaching Assistant for Advance Computer Programming** (Fall 2014),
  instructor: Dr. Adel Rahmani
- **Talk: "I want to talk to you", Language Models for poetry** (August 2016),
  The Center for Information and Language Processing, Ludwig Maximilian University of Munich, Germany
- **Workshop, PyCon 2016, Deep Learning for Natural Language Processing using Python** (Spring 2016),
  In this workshop the model in the paper Learning to Execute (a seq2seq model) was implemented using Keras. PyCon is the largest annual gathering for the community using and developing Python programming language.

Work Experience

- **Sayna Systems Co.** (Summer 2015),
  Developer
  Mobile and Web Application development
- **Iran University of Science and Technology**,
  Research Assistant
  Machine Learning and Data Mining Lab, CE Department
  supervisor: Dr. B. Minaei

Other Projects

- **AbrIO** (2016),
  A fast, soft real time, reliable and scalable message passing server as a service. AbrIO is developed in Scala, a scalable and functional programming language. This service is built on Akka, a framework (written in Scala) to build concurrent, resilient and distributed systems under Reactive manifesto. A joint work with K. Peymani, B. Heydari, H. Khalili, N. Mohammad Hasan
- **Acas** (2015),
  Acas is a Social Network and News Analyser, using data mining and graph discovery algorithms to analyse users' behaviours. a joint work with V. Kharazi, A. Baghi. This project was developed while I was working at Sayna Systems Co.
- **HeadBall** (2014),
  HeadBall is a single player 2D soccer game developed for Android devices using Unity game engine. This game has more than 1000 active users

References

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