Ali Hejazizo | Curriculum Vitae

University of Alberta–Department of Computer Science

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RESEARCH INTERESTS

- Artificial Intelligence
- Natural Language Processing

EDUCATION

- **Master of Science** — May, 2016–Present
  University of Alberta — *Edmonton-Canada*
  - Computer Science — May, 2017–2019 (Expected)
    - GPA: 4/4 via 9 credits
  - Electrical and Computer Engineering — May, 2016–2017
    - GPA: 3.9/4 via 9 credits
- **Bachelor of Science** — 2011–2015
  Amirkabir University of Technology — *Tehran-Iran*
  - Electrical and Computer Engineering
    - Major: Power Systems — GPA: 4/4 via 141 credits
    - Minor: Electronics — GPA: 4/4 via 98 credits

HONORS

- Ranked 1st in Electrical Engineering, Power Group, among more than 30 students, Amirkabir University of Technology, Tehran, Iran.
- Ranked 121st in university entrance exam, among more than 300,000 participant [Summer 2011].
- Exempted from university entrance exam for M.Sc. program and offered M.Sc. program from both Sharif and Amirkabir University of Technology.
- Permitted to study Electronics as a minor (This permission is only awarded to talented students, introduced by the Exceptional Talents Office).
- Granted admission from Talented Student Office of Amirkabir University of Technology for graduate study.

INTERNSHIP

- Investigation, detection and identification of abnormalities in customers' consumption patterns in power distribution systems, using Data Mining methods such as K-Means, PSO, Fuzzy, and SFLA algorithms, in order to reduce Nontechnical Losses.
  - Supervisor: Dr. Hosseinian

PUBLICATION

"Interoperability of Protection Systems in High Voltage Direct Current (HVDC) Networks", 2016 CIGRE Canada Conference Hyatt Regency Vancouver, Vancouver, BC Canada, October 17-19, 2016
A. Hejazizo, S. Pirooz Azad, and D. Van Hertem — Accepted on June 17th, 2016

PROJECTS

In progress:

- Question Answering System Implementation with Memory Networks.
  - Step 1: Rewriting the question into one or more equivalent forms (paraphrases).
  - Step 2: Compiling questions into query templates.
  - Step 3: Logical query rewrite (based on the RDF graph).
  - Step 4: Ranking the answers.
  - Supervisor: Dr. Denilson Barbosa
- Mapping Macroscopic Brain Connectomes via Multidimensional Encoding, Learning, and Optimization using dMRI brain images.
  - Supervisor: Dr. Martha White
- Finding the Nuclei in Divergent Images to Advance Medical Discovery using Deep Learning Techniques.
  - Data Science Bowl Competition

Completed:

- Efficient keyword and phrase retrieval for the boolean and vector space models. This project includes:
  - Building an inverted index to enable fast document retrieval.
  - Boolean and vector space model retrieval.
  - Zone indexing and scoring.
  - Supervisor: Dr. Denilson Barbosa
- Diagnosis of Alzheimer's Disease Based on Structural MRI Images using Machine Learning Techniques.
  - Step 1: Preprocessing MRI images using Freesurfer tools.
  - Step 2: Feature extraction.
  - Step 3: Applying machine learning techniques for diagnosis task.
  - Supervisor: Dr. Jörg Sander
- Evaluation of machine learning classifiers in the task of passengers' survival prediction on titanic dataset.
  - Step 1: Visualization.
  - Step 2: Preprocessing data, in particular handling missing value.
  - Step 3: Applying three different machine learning classifier, namely logistic regression, neural network, and SVM.
  - Step 4: Applying statistically significance tests to evaluate classifiers' results.
  - Instructor: Dr. Martha White
- Implementing Telegram Application Robots using Telepot API.
  - @autstackbot:
    - In this project, I have implemented a Telegram Bot so that students can send questions, receive answers, mark correct answers as accepted, etc. The environment is continuously improving to have all functionalities of Stackoverflow website.
    - Users are currently over 150 students.
  - @python_compile_bot: This robot receives commands from users and interprets them in python language, then shows the result in a neat and beutiful format.
- RS232 protocol implementation.
  - The project includes two GUI in MFC and pyQt to send and receive data, respectively.
  - Supervisor: Dr. Jahanshahi

Courses

- Machine Learning
  - A+
  - Instructor: Dr. Martha White
- Knowledge Discovery and Data Mining
  - A
  - Instructor: Dr. Jörg Sander
- Advanced Programming
  - A+
  - Instructor: Dr. Amir Jahanshahi
- Information Retrieval
  - In Progress
  - Instructor: Dr. Denilson Barbosa
- Knowledge Graph
  - In Progress
  - Instructor: Dr. Denilson Barbosa
- Visual Recognition (Deep Learning)
  - Auditor
  - Instructor: Dr. Nilanjan Ray

ONLINE COURSES (COURSERA)

- Machine Learning
  - Created by: Stanford University
- The Data Scientist's Toolbox
- Getting Started with Python
- Python Data Structures
- Using Python to Access Web Data
- Using Databases with Python
  - Created by: University of Michigan
- Introduction to HTML5
- Introduction to CSS3
- Interactivity with JavaScript
  - Created by: University of Michigan

TEACHING EXPERIENCES

- Teaching Assistant
  - CMPUT 101 - Introduction to Computing Undergraduate Course. Winter 2017, Fall 2017 & Winter 2018
    - Lab instructor
    - Instructor: Dr. Janelle Harms (University of Alberta)
  - Advanced Programming Undergraduate Course. Winter 2016
    - Leading and supervising students in course material, assignments, exams and in small project teams (2-4 members) in completing several Python and C++ projects.
    - Instructor: Dr. Jahanshahi (Amirkabir University)
  - C++ Programming Undergraduate Course. Fall 2015
    - Designing assignments, instructing course material, and leading several small project teams (2-4 members) in completing more than 11 C++ projects.
    - Instructor: Dr. Jahanshahi (Amirkabir University)
  - Electrical Machines I Undergraduate Course. Winter 2014
    - Instructor: Dr. Moghani (Amirkabir University)
  - Engineering Mathmathics Undergraduate Course. Fall 2013
    - Instructor: Dr. Norouzi (Amirkabir University)

COMPUTER SKILLS

Programming/Scripting

- C++
- Python
- Java
- JavaScript
- HTML5
- CSS3
- SQLite
- SPARQL
- LaTeX
- MFC

IDEs/Tools

- PyCharm
- Matlab
- Freesurfer
- IntelliJ
- MS. Visual Studio
- Spyder
- Qt Creator
- PyQt
- R-Studio
- Code-Bocks

References, Further information, and Proofs are available upon Request