

# Ali Hejazizo | Curriculum Vitae

University of Alberta—Department of Computer Science

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## RESEARCH INTERESTS

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- Machine Learning
- Natural Language Processing

## EDUCATION

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- **Master of Science** May, 2016–Present  
 *University of Alberta* Edmonton-Canada  
- Computer Science May, 2017-2019 (Expected)  
· GPA: 4/4 via 12 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  
· Minor: Electronics  
· GPA: 4/4



## HONORS

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- Ranked 1<sup>st</sup> in Electrical Engineering, Power Group, among more than 30 students, Amirkabir University of Technology, Tehran, Iran.
- Ranked 121<sup>st</sup> 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

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-  *AltaML*:  
- Task specific chatbot development.
-  *Amirkabir University of Technology*:  
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. Hosseini

## PUBLICATION

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Hejaziz, A. , Azad, S. P. , & Van Hertem, D.. (2015). Interoperability of Protection Systems in High Voltage Direct Current (HVDC) Networks. In *CIGRE Canada Conference - Future Power Systems and Grid Resiliency* (pp. 1-6). October.





## PROJECTS


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- Mapping Macroscopic Brain Connectomes via Multidimensional Encoding, Learning, and Optimization using dMRI brain images.
  - Mapping onnectomes for one part of the brain, the arcuate fasciculus, using extremely high-dimensional sparse tensors.
  - Loading data and visualization in Matlab
  - Encoding, learning, and optimization in C using multithreading with OpenMP, and GPU parallel computing
  - Supervisor: Dr. Martha White
- 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. Jürg Sander
- Implementation of model compression with teacher-student method on MNIST dataset using Tensorflow.
  - Supervisor: Dr. Nilanjan Ray
- 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
- 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
- Implementing Telegram Application Robots using Telebot API. Implemented in Python using SQLite database.
  - @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 displays the result in a neat and beautiful format.
- RS232 protocol implementation.
  - The project includes two GUI in MFC and PyQt to send and receive data, respectively.
  - Supervisor: Dr. Jahanshahi

## Courses

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|---|--|
| ○  Machine Learning [Fall 2017] <ul style="list-style-type: none"><li>- A+</li><li>- Instructor: Dr. Martha White</li></ul>                  | ○  Advanced Programming [Winter 2015] <ul style="list-style-type: none"><li>- A+</li><li>- Instructor: Dr. Amir Jahanshahi</li></ul>            |
| ○  Knowledge Discovery and Data Mining [Fall 2017] <ul style="list-style-type: none"><li>- A</li><li>- Instructor: Dr. Jürg Sander</li></ul> | ○  Information Retrieval [Winter 2018] <ul style="list-style-type: none"><li>- In Progress</li><li>- Instructor: Dr. Denilson Barbosa</li></ul> |

- o  Knowledge Graph [Winter 2018]
  - In Progress
  - Instructor: Dr. Denilson Barbosa
- o  Visual Recognition (Deep Learning) [Winter 2018]
  - Auditor
  - Instructor: Dr. Nilanjan Ray

## ONLINE COURSES

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✓ Completed:

-  Machine Learning
-  Getting Started with Python
-  Python Data Structures
-  Using Python to Access Web Data
-  Using Databases with Python
-  The Data Scientist's Toolbox
-  Introduction to HTML5
-  Introduction to CSS3
-  Interactivity with JavaScript
-  Parallel Programming using GPGPU and CUDA

## COMPUTER SKILLS

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### Programming/Scripting






- o Python
  - Tensorflow
  - nltk
  - Sklearn
  - Pandas
- o MySQL
- o SQLite
- o SPARQL
- o C/C++
- OpenMP
- CUDA
- cuBLAS
- cuSparse
- o JavaScript
- o HTML5/CSS3
- o L<sup>A</sup>T<sub>E</sub>X
- o MFC

### IDEs/Tools

- o PyCharm
- o Sublime Text
- o Spyder
- o Qt Creator
- o PyQt
- o IntelliJ
- o MS. Visual Studio
- o Matlab
- o Freesurfer

## TEACHING EXPERIENCES

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- o Teaching Assistant
  -  CMPUT 101 - Introduction to Computing Winter 2017, Fall 2017 & Winter 2018
    - Lab instructor
    - Instructor: Dr. Janelle Harms (University of Alberta)
  -  Advanced Programming Winter 2016
    - Instructor: Dr. Jahanshahi (Amirkabir University)
  -  C++ Programming Fall 2015
    - Instructor: Dr. Amir Jahanshahi (Amirkabir University)
  -  Electrical Machines I Winter 2014
    - Instructor: Dr. Javad Moghani (Amirkabir University)
  -  Engineering Mathematics Fall 2013
    - Instructor: Dr. Yaser Norouzi (Amirkabir University)

**! References, Further information, and Proofs are available upon Request**