

# AmirAli Kaboli | Curriculum Vitae

Amirkabir University of Technology - Department of Mathematics and Computer Science

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## EDUCATION

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- **Bachelor of Science** 2017–2021(expected)  
🏛 Amirkabir University of Technology (Tehran Polytechnic) *Tehran-Iran*  
Ranked 2<sup>nd</sup> in Iran according to [QS Ranking](#)
  - Computer Science
    - GPA: 17.87/20 (3.86/4)
    - Thesis: Intent Detection in Conversational Recommender Systems

## HONORS

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- Ranked 4<sup>th</sup> in Computer Science, among 64 students, Amirkabir University of Technology, Tehran, Iran.
- Ranked within the top 1% in university entrance exam, among more than 148,000 participants. [Summer 2017]
- Granted admission from Talented Student Office of Amirkabir University of Technology for graduate study.

## RESEARCH INTERESTS

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- Natural Language Processing
- Machine Learning
- Data Mining
- Information Retrieval

## TEACHING EXPERIENCE

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- Artificial Intelligence Teacher Assistant [Fall 2020]
  - Under supervision of Dr. Saeed Shiry Ghidary
  - Defined class assignments
  - Corrected & graded assignments part
- Introduction to the Theory of Computation Teacher Assistant [Fall 2019]
  - Under supervision of Dr. Fatemeh Zare Mirakabad
  - Held class for about 10 students
  - Corrected & graded assignments part
- Foundation of Combinatorics Teacher Assistant [Spring 2019]
  - Under supervision of Dr. Saeed Kazem
  - Held class for about 30 students

## RESEARCH EXPERIENCE



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- Intent Detection in Conversational Recommender Systems [Spring 2021-Present]
  - Under supervision of Dr. Mohammad Akbari
  - Used [MultiWOZ](#) dataset

- Examined Stack-Propgation paper on my dataset
  - Examined Co-Interactive transformer paper on my dataset
  - Examined Bi-model with decoder paper on my dataset
  - Built a two steps method with combining a binary classification using Fasttext for non-intent utterances and Bi-model with decoder for intent classes
- o Member of iDS Lab [Spring 2021-Present]
- Under supervision of Dr. Mohammad Akbari

## WORK EXPERIENCE

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|--|--------------------|---|--------------------|
| o <b>Data Scientist</b>  | Mar 2021–Sep 2021  | o <b>Machine Learning Engineer</b>  | Oct 2019–Feb 2021  |
|  <u>Cafe Bazaar</u> | <i>Tehran-Iran</i> |  <u>Sotoon</u> - AI Part | <i>Tehran-Iran</i> |

I have worked in Hezardastan Group since Oct 2019. It contains Cafe Bazaar (local app store with more than 45M active users), Divar (buy & sell advertisements platform with more than 35M users), Sotoon (cloud & AI services provider). In Sotoon, I have prepared codes and trained models for production as microservices on distributed systems. In Cafe Bazaar, I have worked on improving an apps recommender system that contains recommendation and ranking parts. It has been evaluated by both hit-rate and user engagement metrics.

## PUBLICATIONS

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- o A. Kaboli, M. Akbari, "Comparative study of Intent Detection on multi-domains datasets", to be submitted, 2021 (In Preparation)

## ACADEMIC PROJECTS

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- |  |               |
|--|---------------|
| o <u>Papers Recommender</u>  | [Spring 2021] |
| <ul style="list-style-type: none"> <li>- Used SVD matrix factorization as Collaborative Filtering</li> <li>- Used Doc2Vec as Content-Based Filtering</li> <li>- Implemented a Hybrid method with combining above methods</li> </ul>  |               |
| o <u>Captcha Detection</u>   | [Spring 2021] |
| <ul style="list-style-type: none"> <li>- Used a method with using PCA plus Random Forest</li> <li>- Used Convolutional Neural Networks</li> </ul>  |               |
| o <u>Bank's Customers EDA and Classification</u>   | [Spring 2021] |
| <ul style="list-style-type: none"> <li>- Used EDA techniques to find relations between features and find best features</li> <li>- Used Decision Tree for classifying personal loan customers</li> </ul>  |               |
| o <u>Earthquake Analysis on Spatial Data</u>   | [Spring 2021] |
| <ul style="list-style-type: none"> <li>- Used spatial libraries like GeoPandas and Folium</li> <li>- Estimated a location for building a new station with the most coverage</li> </ul>   |               |
| o <u>Persian Poet Detection</u>  | [Fall 2020]   |
| <ul style="list-style-type: none"> <li>- Used classic methods like SVM, Random Forest and AdaBoost</li> <li>- Used Fasttext for representations and classification</li> <li>- Used Recurrent Neural Networks like LSTM</li> <li>- Implemented an UI demo with Streamlit library</li> </ul> |               |
| o <u>Persian Language Model</u>  | [Fall 2020]   |
| <ul style="list-style-type: none"> <li>- Used N-Grams with various smoothing functions</li> <li>- Used Recurrent Neural Networks like LSTM</li> </ul>  |               |
| o <u>Disease Detection based on Reviews</u>  | [Fall 2020]   |
| <ul style="list-style-type: none"> <li>- Used TF-IDF vectorizing plus various methods like Logistic Regression and Random Forest</li> <li>- Implemented an UI demo with Streamlit library</li> </ul>   |               |
| o <u>Persian News Classification</u>   | [Fall 2020]   |
| <ul style="list-style-type: none"> <li>- Implemented both char-based and word-based classification</li> </ul>  |               |

- Used TF-IDF vectorizing plus SVM
- o Houzz Data Scrapper [Fall 2020]
  - Used Scrapy library to implement a spider over [houzz.com](https://houzz.com)
- o Persian Email Spam Detection [Fall 2020]
  - Used TF-IDF vectorizing plus Naive Bayes and KNN
- o Twitter Sentiment Analysis [Fall 2020]
  - Used Count vectorizing plus SVM
- o Persian News Retrieval [Spring 2020]
  - Built inverted index and champion lists
  - Used TF-IDF vectorizing
  - Used Cosine similarity measure to find related documents based on a query
- o Machine Learning Algorithms [Spring 2020]
  - Implemented popular Regression and Classification algorithms without using libraries
- o Artificial Intelligence Class Projects [Spring 2019]
  - Searching algorithms
  - Regression using genetic algorithm
  - Document's image alignment

## COURSES

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|--|--|
| o Special Topics in Data Mining (M.Sc) [Spring 2021] | o Special Topics in Computer Science [Fall 2020] |
| - Data Science                                       | - Social Networks Analysis                       |
| - Grade: 19.25/20 (A <sup>+</sup> )                  | - Grade: 20/20 (A <sup>+</sup> )                 |
| o Data Mining [Spring 2021]                          | o Information Retrieval [Spring 2020]            |
| - Grade: 20/20 (A <sup>+</sup> )                     | - Grade: pass (pass/fail system due to COVID-19) |
| o Natural Language Processing (M.Sc) [Fall 2020]     | o Artificial Intelligence [Spring 2019]          |
| - Grade: 18.5/20 (A <sup>+</sup> )                   | - Grade: 20/20 (A <sup>+</sup> )                 |

## ONLINE COURSES

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- |   |   |
|---|---|
| o <u>Machine Learning</u>                               | o <u>Deep Learning Specialization</u>               |
| o <u>Natural Language Processing with Deep Learning</u> | - Andrew Ng   |
| - Chris Manning   | - In Progress                                       |
| - In Progress   | o <u>Advanced Python Programming, project based</u> |

## EXAM SCORES

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- o TOEFL iBT: will be taken on Nov 13, 2021
- o GRE General: will be taken on Nov 15, 2021

## SKILLS

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Programming Languages:	C/C++, Python
Libraries:	Numpy, Pandas, Scikit-Learn, Pytorch, Matplotlib, Seaborn, NLTK, Streamlit, Pyspark
Web Technologies:	HTML, CSS, MySQL, Django
Operating Systems:	Linux, Windows
Miscellaneous:	L <sup>A</sup> T <sub>E</sub> X, Jupyter, Git, Bash

❗ References, Further information, and Proofs are available upon Request