

AmirAli Kaboli | Curriculum Vitae

Amirkabir University of Technology - Department of Mathematics and Computer Science

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EDUCATION

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

HONORS

- Ranked 4th 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

- Natural Language Processing
- Social Media Analysis
- Machine Learning
- Information Retrieval

TEACHING EXPERIENCE



- 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

- 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

- | | | | |
|--|--------------------|---|--------------------|
| o Data Scientist | Mar 2021–Sep 2021 | o Machine Learning Engineer | 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 (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

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

- Used TF-IDF vectorizing plus SVM
- o Houzz Data Scraper [Fall 2020]
 - Used Scrapy library to implement a spider over 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

- | | |
|--|--|
| 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 ⁺) | - Grade: 20/20 (A ⁺) |
| o Data Mining [Spring 2021] | o Information Retrieval [Spring 2020] |
| - Grade: 20/20 (A ⁺) | - 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 ⁺) | - Grade: 20/20 (A ⁺) |

ONLINE COURSES

- | | |
|---|---|
| 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

- o TOEFL iBT: 88 (Reading: 24, Listening: 20, Speaking: 20, Writing: 24)
- o GRE General: 306 (Quantitative: 167, Verbal: 139, Analytical Writing: 3.0)

SKILLS

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:	LaTeX, Jupyter, Git, Bash

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