

AmirAli Kaboli | Curriculum Vitae

Amirkabir University of Technology - Department of Mathematics and Computer Science

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EDUCATION

- **Bachelor of Science** Sep 2017-Mar 2022
🎓 Amirkabir University of Technology (Tehran Polytechnic) *Tehran, Iran*
Ranked 2nd in Iran according to [QS Ranking](#)
 - Computer Science
 - GPA: 17.99/20 (3.87/4)
 - Thesis: Intent Detection in Conversational Recommender Systems
 - Grade: 20/20 (4/4)(A⁺)

HONORS & AWARDS

- Ranked 3rd in Computer Science, among 64 students, Amirkabir University of Technology, Tehran, Iran
- Winner of the Sparkling Talent Quota from Talented Students Office of Amirkabir University of Technology
- Ranked within the top 1% in the National Entrance Examination 2017, among more than 148,000 participants
- Ranked 4th in the ICPC Selection Contest 2018, among more than 20 teams in Amirkabir University of Technology

RESEARCH INTERESTS

- Natural Language Processing
- Social Media Analysis
- Healthcare
- Vision and Language
- Information Retrieval
- Machine Learning

RESEARCH EXPERIENCE

- Research Assistant Jan 2021-Present
🎓 Amirkabir University of Technology (Tehran Polytechnic) *Tehran, Iran*
 - Under supervision of Dr. Mohammad Akbari
 - Intent Detection in Conversational Recommender Systems
 - Used [MultiWOZ](#) dataset
 - Implemented and examined methods of [Stack-Propagation](#), [Co-Interactive transformer](#), [Bi-model with decoder](#), and [Joint BERT](#) papers on my dataset
 - Achieved improvements by building a two steps method by combining a binary classification using Fasttext for non-intent utterances and [Bi-model with decoder](#) for intent classes
 - Preparing a comparative study paper on intent detection and slot filling joint models
- Github Contributor Feb 2022
🌐 MultiWOZ Dataset
 - Rewritten and made Python2 legacy codes compatible with Python3


PUBLICATIONS


- A. Kaboli, M. Akbari, "Comparative study of Intent Detection and Slot Filling joint models on multi-domains datasets", to be submitted, 2022 (In Preparation)

TEACHING EXPERIENCE

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

WORK EXPERIENCE

- Data Scientist Mar 2021-Sep 2021
 Cafe Bazaar (App store with more than 45M active users)
Tehran, Iran

I have worked on an application recommender system that contains recommendation and ranking stages. I have achieved improvements based on hit-rate and user engagement metrics.
- Machine Learning Engineer Oct 2019-Feb 2021
 Sotoon - AI Department (Cloud & AI services provider)
Tehran, Iran

My mission was preparing codes and trained models for production as microservices on distributed systems, making them time and resources usage efficient, and implementing some MVPs for fast delivery.

ACADEMIC PROJECTS





- Papers Recommender Spring 2021
 - Used SVD matrix factorization as Collaborative Filtering
 - Used Doc2Vec as Content-Based Filtering
 - Implemented a Hybrid method by combining the above methods
- Captcha Detection Spring 2021
 - Used a method by using PCA plus Random Forest
 - Used Convolutional Neural Networks
- Bank's Customers EDA and Classification Spring 2021
 - Used EDA techniques to find relations between features and find the best features
 - Used Decision Tree for classifying personal loan customers
- Earthquake Analysis on Spatial Data Spring 2021
 - Used spatial libraries such as GeoPandas and Folium
 - Estimated a location for building a new station with the most coverage
- Persian Poet Detection Fall 2020
 - Used classic methods such as SVM, Random Forest, and AdaBoost
 - Used Fasttext for representations and classification
 - Used Recurrent Neural Networks such as LSTM
 - Implemented a UI demo by Streamlit library
- Persian Language Model Fall 2020
 - Used N-Grams with various smoothing functions
 - Used Recurrent Neural Networks such as LSTM
- Disease Detection based on Reviews Fall 2020
 - Used TF-IDF vectorizing plus various methods such as Logistic Regression and Random Forest
 - Implemented a UI demo by Streamlit library
- Persian News Classification Fall 2020
 - 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

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| <ul style="list-style-type: none"> o Special Topics in Data Mining (M.Sc.) Spring 2021 <ul style="list-style-type: none"> - Data Science - Grade: A^+ o Data Mining Spring 2021 <ul style="list-style-type: none"> - Grade: A^+ o Natural Language Processing (M.Sc.) Fall 2020 <ul style="list-style-type: none"> - Grade: A^+ | <ul style="list-style-type: none"> o Special Topics in Computer Science Fall 2020 <ul style="list-style-type: none"> - Social Networks Analysis - Grade: A^+ o Information Retrieval Spring 2020 <ul style="list-style-type: none"> - Grade: pass (pass/fail system due to COVID-19) o Artificial Intelligence Spring 2019 <ul style="list-style-type: none"> - Grade: A^+ |
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ONLINE COURSES

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| <ul style="list-style-type: none"> o  <u>Machine Learning</u> o  <u>Natural Language Processing with Deep Learning</u> <ul style="list-style-type: none"> - In Progress | <ul style="list-style-type: none"> o  <u>Deep Learning Specialization</u> <ul style="list-style-type: none"> - In Progress o  <u>Advanced Python Programming, project based</u> |
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EXAM SCORES

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| o TOEFL iBT: 88 (R: 24, L: 20, S: 20, W: 24) | o GRE General: 306 (Q: 167, V: 139, W: 3.0) |
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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:	L ^A T _E X, Jupyter, Git, Bash

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