

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 2nd 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 ACM ICPC Selection Contest 2019, among more than 20 teams in Amirkabir University of Technology

RESEARCH INTERESTS

- Natural Language Processing
- Vision and Language
- Social Media Analysis
- Information Retrieval
- Healthcare
- 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
 [Sooton - 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 Scrapper 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: A ⁺ | | - Grade: A ⁺ | |
| o Data Mining | Spring 2021 | o Information Retrieval | Spring 2020 |
| - Grade: A ⁺ | | - Grade: pass (pass/fail system due to COVID-19) | |
| o Natural Language Processing (M.Sc.) | Fall 2020 | o Artificial Intelligence | Spring 2019 |
| - Grade: A ⁺ | | - Grade: A ⁺ | |

ONLINE COURSES

- | | |
|--|--|
| o  Machine Learning | o  Deep Learning Specialization |
| o  Natural Language Processing with Deep Learning | - In Progress |
| - In Progress | o  Advanced Python Programming, project based |

EXAM SCORES

- o TOEFL iBT: 88 (R: 24, L: 20, S: 20, W: 24)
- o GRE General: 306 (Q: 167, V: 139, W: 3.0)

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 ^A T _E X, Jupyter, Git, Bash |

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