

# Mohaddese Ahmadkhani Khari

## Computer Science

### Education

2017–2022 **Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran**

- B.Sc. in [Computer Science](#).

- GPA(last two years): (3.33/4.00)

- **Selected Courses (with Grades of A):**

- Data Mining

- Artificial Intelligence

Numerical Linear Algebra, General Math I, Foundation of Combinatorics, Computer Workshop, Introduction to the Theory of Computation, Research Method & Report Writings, Theory of Computation, Compiler, Topics in Computer Science (Bioinformatics), Computer Simulation, Foundation of Numerical Analysis, Computer Networks, Principles of Software Design

- **Advisor:** [Prof. Ali Mohades Khorasani](#)

### Research Interests

- **Deep learning**

- **Machine Learning**

- **Computational Social Network**

- **Natural Language Processing**

### Activities & Projects

Spring'22 **Intern, Amirkabir University of Technology**

-Present Artificial Intelligence

- [Peppydigger](#), Social network analysis, and management web app.

Summer'22 **Big Data Classification, Analyzing Social Network Data Using 70GB of Scientific Multilingual Articles**

Deep Learning, [github](#).

- Classifying big data using a deep learning approach (LSTM). Challenges include separated files and classes, big data, limited memory and time, and multilingual data.

Summer'22 **Sentiment Analysis using LSTM Neural Networks on Persian Tweets**

Deep Learning, [github](#).

- Analyzing sentiments of a group of Persian tweets associated with a specific topic using Long Short-Term Memory Neural Network. In the future, I also wish to take sarcasm and irony into account as well.

Winter'22 **Social Media Influencers Detection**

Data Science, [github](#).

- Finding influencers associated with a specific keyword using a default threshold and Networkx PageRank that initially was developed to rank web pages.

Fall'22 **Flight Cancellation Prediction**

Machine Learning, [github](#).

- A machine learning approach to predict whether a flight will be canceled or not using classification.

Spring'22 **LDA Topic Modelling on Persian Tweets**

Data Science, [github](#).

Summer'21 **Implementing Agile Methodology to "groupify" Site Project, Finding Partners for Different Activities Based on Interests, Python, Django, Amirkabir University of Technology, Tehran, Iran**

Software Design, [Prof. Amin Gheibi](#).

- Having a partner can always make learning more fun, yet some people have trouble finding the best partner that matches with their time and ability. This app, developed using Django framework, helps them out.

Spring'20 **Simple Compiler with C, Amirkabir University of Technology, Tehran, Iran**

Compiler, [Prof. M.Hassan Shirali-Shahreza](#).

Spring'21 **Sharif Global Game Jam, Sharif University of Technology, Tehran, Iran**

Game Design, [website](#).

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## Research Experience

Spring'22 **Optimizing Topic Modelling Implementation using Latent Dirichlet Allocation, Amirkabir University of Technology, Tehran, Iran**

B.Sc project worked with [Prof. Adel Mohammadpour](#).

- In order to optimize LDA in terms of time and memory, a matrix was used along with n-grams using Gensim package and doing trial and error to find best parameter numbers.

Spring'22 **Translation of "Sufficiency Revisited: Rethinking Statistical Algorithms in the Big Data Era", Jarod Y.L.Lee, James J. Brown, and Louise M. Ryan, Amirkabir University of Technology, Tehran, Iran**

[Prof. Adel Mohammadpour](#).

- Sometimes even removing personal information is not enough to keep the privacy of a corporate or hospital. Hence, we need to implement other methods for data analysis without direct access to the information. The summary statistics can be the answer, and this article delves into ways in which summary statistics are used.

Summer'20 **Cholesky decomposition using Tikhonov regularization, MATLAB, Python, Amirkabir University of Technology, Tehran, Iran**

Numerical Linear Algebra, [Dr. Saeed Kazem](#).

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## Teaching Experience

- Winter'22 **Head of Teaching Assistants**, *Amirkabir University of Technology, Tehran, Iran*  
Software Design, Dr. Hossein Noorikhah.
- Managing teacher assistances and communicating their responsibilities to them weekly.
  - Presenting a lecture on agile methodology.
- Winter'22 **Teaching Assistant**, *Amirkabir University of Technology, Tehran, Iran*  
Database, [Prof. Reyhane Gamasae](#).
- Holding classes for answering students' questions and solving their assignments after weekly deadlines.
  - Scoring assignments.
- Spring'21 **Teaching Assistant**, *Amirkabir University of Technology, Tehran, Iran*  
Software Design, Dr. Hossein Noorikhah.
- Managing weekly meetings with preassigned teams to help with their projects.
  - Scoring assignments.
- Winter'19 **Teaching at Salam High School**, *Salam High School, Tehran, Iran*  
[Salam High School](#).

## Skills & Abilities

- Programming C, C++, Python, R, Django framework
- Software MySQL, SQLServer, Postgresql, Kafka, Elasticsearch, Linux, Git, MATLAB.
- Engineering
- Languages Persian (Native), English (TOEFL: 104, GRE: 28 Nov), German (A2).

## Honors and Awards

- Sep. 2017 **Competitive Examination, National University Entrance Exam**, *Ranked among top 1% in the National University Entrance Exam among 145,000 participants for undergraduate program*
- 2015 **National Geometry Olympiad**, *Ranked 3<sup>rd</sup>*

## Leadership Experience

- Winter'22 **Head of Teaching Assistants**, *Amirkabir University of Technology*
- Winter'20 **Head of Mario, Sharif University of Technology Gaming's Journal, Design Team**, *Sharif University of Technology*

## References

### [Prof. Adel Mohammadpour](#)

Associate Professor, Department of Mathematics and Computer Science, Statistics, Amirkabir University of Technology.

Email: [adel@aut.ac.ir](mailto:adel@aut.ac.ir)

### [Prof. Reyhaneh Gamasae](#)

Assistant Professor, Department of Industrial Engineering & Management Systems, Systems Engineering, Amirkabir University of Technology.

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