

# NEGIN RAHIMI

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## RESEARCH INTERESTS

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Machine learning - Optimization - Probability - Statistics - Game Theory - Numerical linear algebra - Graph Theory

## EDUCATION

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**Bachelor in Computer Science**, Amirkabir University Of Technology 2019 - Expected 2024  
GPA:19.57/20(1st rank)  
GPA(Last Semester): 20

**Bachelor in Mathematics**, Amirkabir University Of Technology 2019 - Expected 2024  
GPA:19.31/20(1st rank)  
GPA(Last 3 Semesters): 20

## RESEARCH EXPERIENCE

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**Researcher Assistant** Sharif University  
Department of Mathematics and Computer Science *December 2022 - present*  
- Under the supervision of [Dr. Mojtaba Tefagh](#)  
- Engaging in research involving betweenness centrality within graph networks.

## EXPERIENCE

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**Head Teaching Assistant** Amirkabir University  
Department of Mathematics and Computer Science *February 2022 - present*

- **Numerical Calculation** - Instructors: [Dr.Fatemeh Shakeri](#) - [Dr.Farnaz Hooshmand](#) - [Dr.Ali Hatam](#) - [Dr.Mohammad Ali](#)
- **Numerical Calculation** - Instructors: [Dr.Mostafa Abbaszaddeh](#) - [Dr.Fatemeh Shakeri](#) - [Dr.Mostafa Shamsi](#) - [Dr. Farnaz Hooshmand](#) - [Dr.Ali Hatam](#)
- **Numerical Calculation** - Instructors: [Dr.Mostafa Abbaszaddeh](#) - [Dr.Fatemeh Shakeri](#) - [Dr.Farnaz Hooshmand](#) - [Dr.Ali Hatam](#) - [Dr.Mohammad Ali](#)

**Teaching Assistant** Amirkabir University  
Department of Mathematics and Computer Science *September 2021 - present*

- **Data Structures & Algorithms** - Instructor: [Dr.Sajad Shirali-Shahreza](#)
- **Design & Analysis of Algorithms** - Instructor: [Dr.Sajad Shirali-Shahreza](#)
- **Numerical Linear Algebra** - Instructor: [Prof.Mehdi Dehghan](#)
- **Probability1** - Instructor: [Dr.Omid Naghshineh Arjmand](#)
- **Foundation of Probability** - Instructor: [Dr.Omid Naghshineh Arjmand](#)
- **Foundation of Numerical Analysis** - Instructor: [Dr.Farhad Fakhar-Izadi](#)
- **Foundation of Numerical Analysis** - Instructor: [Dr.Mostafa Shamsi](#)

## HONORS & AWARDS

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**Ranked 1st among 60 students** *present*  
Mathematics Department, Amirkabir University

**Ranked 1st among 70 students** *present*  
Computer Science Department, Amirkabir University

**Ranked 16th in Iranian Mathematics Olympiad for University Students (Sanjesh)** *September 2022*

Ranked 11th among more than 3000 participants in the Iranian University Entrance Exam for master's degree in Mathematics *July 2022*

Ranked in the top 0.02% among more than 164000 participants in Iranian University Entrance Exam (Konkour) *July 2019*

Mathematics and Physics majors

## NOTABLE COURSES

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**Machine Learning (Graduate)**

Audited

**Convex Optimization (Graduate)**

Audited

**Stochastic Process(20/20)**

**Probability1(19.4/20)**

**Game Theory(20/20)**

**Design & Analysis of Algorithms (17/20)**

**Numerical Linear Algebra(20/20)**

**Advanced programming(20/20)**

**Online Learning(Graduate)**

Audited

**Chaos and Nonlinear Dynamics(Graduate)**

Audited

**Linear Optimization(20/20)**

**Data Mining(20)**

**Artificial Intelligence(19.1/20)**

**Graph Theory(20/20)**

**Numerical Analysis1(20/20)**

**Data Structures & Algorithms(20/20)**

**Software Mathematics(20/20)**

## SELECTED PROJECTS

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**Django-based Professor Appointment and Scheduling System - [Github](#)**

Amirkabir University

- Allows Students to view, reserve, and request appointments.
- Implemented a notification system.
- Incorporated a barcode-based access system.

**Multi threaded Rust Grep Utility - [Github](#)**

Amirkabir University

- Developed a custom implementation of the grep utility.

**Parallel Matrix Multiply HTTP Server - [Github](#)**

Amirkabir University

- A multi-process architecture with inter-process communication (IPC) mechanisms, semaphores, custom numbers of threads, and mutex locks using C++.

**K-Cross Fold Validation and Decision Tree Analysis using RapidMiner - [Github](#)**

Amirkabir University

- Completed a machine learning project utilizing RapidMiner
- Involving the implementation of K-Cross Fold Validation and Decision Tree analysis techniques

**Comparative Analysis of Classification Models - [Github](#) - [Kaggle](#)**

Amirkabir University

- This Python project utilizes adult income data
- Compare Decision Tree, SVM, and KNN models

**Enhancing Breast Cancer Prediction using MLP - [Github](#) - [Kaggle](#)**

Amirkabir University

- Assesses its performance through precision, recall, F1-score, and confusion matrix analysis

## ONLINE NOTABLE COURSES

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**Convex Optimization(Prof.Boyd)**

Audited

**Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization**

Coursera

## **AI For Everyone**

Coursera

## **Neural Networks and Deep Learning**

Coursera

## **Supervised Machine Learning: Regression and Classification**

Coursera

## **Intermediate Machine Learning**

Kaggle

## **Intro to Machine Learning**

Kaggle

## **SKILLS**

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**Programming Languages:** Python, MATLAB, C/C++, Rust

**Libraries and Frameworks:** TensorFlow, Scikit-Learn

**Environments and Tools:** Git

**Miscellaneous:** LaTeX, Lindo, Rapidminer

## **LANGUAGES**

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**Persian:** Native

**English:** Fluent