Ali **Keramati**

School of Electrical and Computer Engineering, University of Tehran, Tehran, Iran.

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Education

School of Electrical and Computer Engineering, University of Tehran   *Tehran, Iran*

B.Sc. in Computer Engineering (Major Study)   *Sep. 2019 - present*

- Last 2 Year GPA: 3.95/4 · CGPA: 18.39/20 (3.84/4)
- Related Courses: Discrete Mathematics(20/20) · Engineering Probability and Statistics(17.8/20)
  Data Structures and Algorithms(20/20) · Machines and Language Theory(18.9/20) · Artificial Intelligence(19.1/20)
  Foundations of Information Technology(19.6/20) . Internet Engineering(20/20) . Large Language Models(in progress)

School of Psychology and Education, University of Tehran   *Tehran, Iran*

Minor Study in Educational Science   *Sep. 2021 - Jul. 2023*

- CGPA: 19.3/20 (4/4)
- Related Courses: Educational Psychology(18.75/20) · Introduction to Psychological Tests (20/20)
  Patterns and Teaching Methods(20/20) · Basics of Qualitative and Quantitative Research Methods(19/20)
  The Principles of Curriculum Development(20/20) · Instructional Design(19/20)

Allame Helli 4 High School   *Tehran, Iran*

Diploma in Mathematics and Physics   *Sep 2016 - Jul. 2019*

- CGPA: 19.66/20
- As a part of the National Organization for Development of Exceptional Talents (NODET)

Research Interests

- **Educational technology**
- **AI in Education**
- **Digital-learning design**
- **Large Language Models for Education**
- **E-Learning**
- **CSCL**

Publications

Keramati, A., Keramati, M. R., and Arefian, M. H. (2024). **"Students' Reflection on the Effect of Collaborative Learning on Learning Environment and Academic Achievement in Online Reflective Platforms"**. *Reflective Practice.*

Keramati, M. R., Gillies, R., Ansarizadeh, F., and Keramati, A. (2023). **"The Concept of Cooperative Learning in Australia and Iran"**. *Iranian Journal of Comparative Education*.

Keramati, M. R., Gillies, R., Ansarizadeh, F., and Keramati, A. (2024). **"Challenges and Solutions of Implementing Cooperative Learning in Classroom Environments: Lived Experiences of Primary School Teachers in Iran"**. *International Journal of Early Years Education*. (accepted)

Vatandoust M., Mohajeri M. M., Keramati A., and Ahmadabadi M. N. (2024, expected). **"Bridging the Educational Divide by Scaling Personalized Deep Learning with Artificial Intelligence: Opportunities and Challenges"**. (in preparation)

Keramati, A., Keramati, M. R., and Gillies, R. (2024, expected). a Chapter titled **"Collaborative learning in the digital age: Opportunities and challenges"**. Book: *Communication and Collaboration: Challenges in 21 Century.* (in preparation)

Research Experience

Research Assistant at *Cognitive Systems Lab*   *University of Tehran*

Under the supervision of Prof. M. N. Ahmad Abadi   *May. 2023 - present*

A new pedagogy model for Deep Learning · AI tools, reinforcement learning, and platforms like Google Classroom and Discord enrich learning environment . LLMs for Personalized Learning . Self-regulated Learning · Adaptive Learning · For more details, explore our aiedut.com

Research Assistant in studying Collaborative Learning   *Remote-University of Queensland*

Under the supervision of Prof. R. Gillies & Prof M. R. Keramati   *Sep. 2021 - present*

Collaborative Learning . Interactive Learning Environments . Data Analysis using ATLAS.ti . Qualitative Research

Research Assistant at *E-Learning Lab*   *University of Tehran*

Under the supervision of Prof. F. Taghiyareh   *Mar. 2023 - Aug. 2023*

Interactive Learning Object · Personalized Learning · IEEE-LOMs extraction · Avida-ED project for generating Learning Objects based on Genetic Algorithm

Member of *Embodied Underground* reading group
University of California, Berkeley

UNDER THE SUPERVISION OF PROF. D. ABRAHAMSON
Jan. 2024 - present

Reading a paper weekly · A nice feature of these meetings is that we always have the author(s) of the paper join us for more clarification.

Member of *Large Language Models* reading group
University of Tehran

UNDER THE SUPERVISION OF PROF. M. J. DOUSTI
Feb. 2024 - present

Reading papers weekly · Each member presents and leads a discussion on a chosen paper.

Teaching Experience

COURSE MENTOR

Unity Game Development Course Mentor SUMMER OF CODE AT ACM STUDENT CHAPTER
Jul. 2022 - Oct. 2022

TEACHING ASSISTANT

Reinforcement Learning	**Data Structures** SUPERVISOR	**Algorithm Design**
Discrete Mathematics HEAD TA	**Engineering Probability and Statistics**	**Database Design**
Internet Engineering HEAD TA	**Software Engineering** HEAD TA	**Electrical Circuit**

Notable Academic Projects

aiedut.com
Cognitive Systems Lab

LEARNING MANAGEMENT SYSTEM
Python, Django, Bootstrap, JavaScript

Customized LMS to Enhance Learning Experience · Integration with Google Classroom and Chat GPT · Database Utilizes Postgres with Redis

Discord Bot
Cognitive Systems Lab

TA AGENT
Discord.py, Discord.js

Gathers Students' Activity · Monitors Server · Makes Interventions to Encourage Students to be Engaged

Discord Classroom
Cognitive Systems Lab

COLLABORATIVE LEARNING ENVIRONMENT
Discord Server Template

Promotes Active Student Engagement and Collaboration · According to the Jigsaw Model · Click here to see the template.

Student Grade Management Sheet
TA-Discrete Mathematics

MERGING SUB SHEETS FOR GRADE TRACKING
Excel, Apps Script

Multiple Features Crafted using Complex Formulas · Automated Grade Delivery with Feedback using Apps Script

DM Contest Bot
TA-Discrete Mathematics

CONTEST MANAGEMENT SYSTEM
Django, Python

Automated Question Mailing System · Group's Score Handler

IEEE-LOM Extractor
E-Learning Lab

COMPATIBLE WITH PPTX, DOCX, PDF
TexStat, NLTK, YOLO, pyhton-pptx

Automated IEEE-LOM Extraction · NLP algorithms · Image and Video Processing

Handwriting Recognition (HWR)
Artificial Intelligence

NEURAL NETWORK
Keras, TensorFlow

Phase 1: Feed-Forward Neural Network from scratch · Phase 2: Neural Network model using Keras and TensorFlow

Music Genre Prediction
Artificial Intelligence

MACHINE LEARNING
Scikit-Learn

K-Nearest Neighbors · Decision Tree · Random Forest models

Genetic Decrypto
Artificial Intelligence

GENETIC ALGORITHM
python

Generating a Population of Candidate Keys · Crossover and Mutation

Baloot
Internet Engineering

ONLINE SHOP WEBSITE
Java, Spring, Tomcat, React

A Fully Functioning Amazon clone · Used Tools: CI/CD pipelines, JDBC, JUnit, Github Oauth apps

Pong Game
Real-time Embedded Systems

ANDROID OS AND MOBILE PHONE SESNORS
Andorid Studio, Canvas

Accelerometer and Gyroscope sensors · Real-World Formulas for the movement of the Ball and Paddle

Image Filtering

SERIAL VS. MULTI-THREAD METHODS

Parallelizing the Hotspot Functions

Work Experience

Zendegiye Shad Publication   *Tehran, Iran*

EDITOR   *Sep. 2019 - Sep. 2020*

- Edited five Persian language books in the field of education, ensuring their clarity, consistency, and adherence to grammatical standards. My contributions to these books include "Implementation of Collaborative Learning," "New Approaches and Methods in Mathematics Education," "Effective Teaching-Learning in Higher Education," "Curriculum Evaluation," and "Co-Teaching."

Certifications

Introduction to EdTech	EDHEC BUSINESS SCHOOL	*Sep. 2023*
Generative AI with Large Language Models	DEEPLEARNING.AI	*Jul. 2022*
Fundamentals of Reinforcement Learning	UNIVERSITY OF ALBERTA	*Aug. 2023*

Volunteer Activities

Mathematics Teacher   *Tehran, Iran*

TEACHER   *Sep. 2019 - Sep. 2021*

- Engaged in voluntary teaching of mathematics to students who can't afford it.

Skills

Programming	Advanced: C/C++, Python, Java High Intermediate: C#, SQL, Javascript Intermediate: R, LaTeX, Verilog, HTML/CSS Familiar: Stata, GoLang
Technologies	ATLAS.ti, Excel, Git, Docker, Kubernetes, Maven, Makefile
Software Engineering	Familiar with multiple design patterns.
Web Development	React, TomCat, Spring
Database	MySQL, Postgres, MongoDB, Neo4j, Redis, ElasticSearch
Operating Systems	Linux (Ubuntu), Microsoft Windows, MacOS

Languages

Persian	Native
English	Professional working proficiency · **TOEFL: 97/120 [R:25, L:23, S: 23, W:26] (Oct. 2023)**
Azerbaijani	Fluent
Arabic	Basic