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 Year GPA: 4/4 · CGPA: 18.27/20 (3.83/4)
- 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)

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

- **Education Technology (EdTech)**
- **RL4Ed & ML4Ed & LLMEd**
- **AI in Education**
- **E-Learning**
- **Digital-learning design**
- **CSCL**

Publications

Keramati, A., Keramati, M. R., and Arefian, M. H. (2023). **"Students' Reflection on the Effect of Collaborative Learning on Learning Environment and Academic Achievement in Online Reflective Platforms"**. *Reflective Practice.* (accepted)

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. (2023). **"Challenges and Solutions in Implementing Cooperative Learning in Classroom Environments: A Case Study of Primary School Teachers' Lived Experiences"**. *International Journal of Early Years Education*. (under review)

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., Fallah A., and Taghiyareh F. (2023). **"Enhanced Iranian Integrated Healthcare System Through Root Cause Analysis"**. *Iranian Conference on Advances in Enterprise Architecture. Affiliated with IEEE Xplore.* (under review)

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 - present*

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

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 *Operating Systems*
SERIAL VS. MULTI-THREAD METHODS *C++, pthread.h*

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*

Game Theory   STANFORD UNIVERSITY, THE UNIVERSITY OF BRITISH COLUMBIA *In Progress*

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