

Ali Keramati

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Education

School of Education, University of California Irvine (UCI)

PH.D. IN EDUCATION DATA SCIENCE

Irvine, CA, USA

Jan. 2025 - Present

School of Electrical and Computer Engineering, University of Tehran

B.SC. IN COMPUTER ENGINEERING (MAJOR STUDY)

- Last 2 Year GPA: 4/4 · CGPA: 18.51/20 (3.85/4)
- 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(20/20)

Tehran, Iran

Sep. 2019 - Jul. 2024

School of Psychology and Education, University of Tehran

MINOR STUDY IN EDUCATIONAL SCIENCE

- 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)

Tehran, Iran

Sep. 2021 - Jul. 2023

Allame Helli 4 High School

DIPLOMA IN MATHEMATICS AND PHYSICS

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

Tehran, Iran

Sep 2016 - Jul. 2019

Research Interests

- AI in education
- Education data science
- LLMs for learning, teaching, assessment
- Digital-learning design
- CSCL
- Human behavior and learning modeling

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*.

Fallah A., Keramati A., Nazari M., and Mirfazeli F. (2024) "Automating Theory of Mind Assessment with a LLaMA-3-Powered Chatbot: Enhancing Faux Pas Detection in Autism". 14th International Conference on Computer and Knowledge Engineering (ICCKE 2024). Affiliated with IEEE Xplore. (Accepted)

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*.

Vatandoust M., Mohajeri M. M., Keramati A., and Ahmadabadi M. N. (2024). "AI-powered Digital Framework for Personalized Economical Quality Learning at Scale". *Journal of Computer Assisted Learning*. (Under Review)

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

Research Experience

Digital Learning Lab

UNDER THE SUPERVISION OF PROF. M. WARCSCHAUER

UCI

Jan. 2025 - Present

Cognitive Systems Lab

UNDER THE SUPERVISION OF PROF. M. N. AHMAD ABADI

A new pedagogy model for Deep Learning · LLMs for Personalized Learning · Student Modeling · RLHF

University of Tehran

May. 2023 - Dec. 2024

Remote-University of Queensland

UNDER THE SUPERVISION OF PROF. R. GILLIES & PROF M. R. KERAMATI

Collaborative Learning · Interactive Learning Environments · Data Analysis using ATLAS.ti

University of Queensland

Sep. 2021 - present

UT NLP group

UNDER THE SUPERVISION OF PROF. M. J. DOUSTI & PROF. H. FAILI

Large Language Models · Retrieval-Augmented Generation · Fine-tuning (LoRA and Adapters) · Knowledge and Reasoning

University of Tehran

Feb. 2024 - Dec. 2024

Technology Enhanced Learning Lab (TELAB)

UNDER THE SUPERVISION OF PROF. F. TAGHIYAREH

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

University of Tehran

Mar. 2023 - Aug. 2023

National Brain Centre

UNDER THE SUPERVISION OF PROF. F. S. MIRFAZELI

Autistic Brain and Learning Process · Automating ToM Assessment and Rehabilitation in Autism with a LLaMA-3-Powered Chatbot

Iran University of Medical Sciences

Jul. 2024 - Sep. 2024

Embodied Design Research Lab

UNDER THE SUPERVISION OF PROF. D. ABRAHAMSON

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.

University of California, Berkeley

Jan. 2024 - Present

Teaching Experience

COURSE MENTOR

Unity Game Development Course Mentor · SUMMER OF CODE AT ACM STUDENT CHAPTER

Jul. 2022 - Oct. 2022

TEACHING ASSISTANT

Reinforcement Learning

Discrete Mathematics HEAD TA

Internet Engineering HEAD TA

Data Structures SUPERVISOR

Engineering Probability and Statistics

Software Engineering HEAD TA

Algorithm Design

Database Design

Electrical Circuit

Notable Academic Projects

aiedut.com

LEARNING MANAGEMENT SYSTEM

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

Cognitive Systems Lab

Python, Django, Bootstrap, JavaScript

Discord Bot

TA AGENT

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

Cognitive Systems Lab

Discord.py, Discord.js

Discord Classroom

COLLABORATIVE LEARNING ENVIRONMENT

Promotes Active Student Engagement and Collaboration · According to the Jigsaw Model · Click [here](#) to see the template.

Cognitive Systems Lab

Discord Server Template

Student Grade Management Sheet

MERGING SUB SHEETS FOR GRADE TRACKING

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

TA-Discrete Mathematics

Excel, Apps Script

DM Contest Bot

CONTEST MANAGEMENT SYSTEM

Automated Question Mailing System · Group's Score Handler

TA-Discrete Mathematics

Django, Python

IEEE-LOM Extractor

COMPATIBLE WITH PPTX, DOCX, PDF

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

E-Learning Lab

TexStat, NLTK, YOLO, python-pptx

Handwriting Recognition (HWR)

NEURAL NETWORK

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

Artificial Intelligence

Keras, TensorFlow

Music Genre Prediction

MACHINE LEARNING

K-Nearest Neighbors · Decision Tree · Random Forest models

Artificial Intelligence

Scikit-Learn

Genetic Decrypto

GENETIC ALGORITHM

Generating a Population of Candidate Keys · Crossover and Mutation

Artificial Intelligence

python

Baloot

ONLINE SHOP WEBSITE

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

Internet Engineering

Java, Spring, Tomcat, React

Pong Game

ANDROID OS AND MOBILE PHONE SENSORS

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

Real-time Embedded Systems

Andorid Studio, Canvas

Work Experience

Zendegiye Shad Publication

EDITOR

Tehran, Iran

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 DEEPLARNING.AI

Jul. 2022

Fundamentals of Reinforcement Learning UNIVERSITY OF ALBERTA

Aug. 2023

LangChain: Chat with Your Data DEEPLARNING.AI

Jul. 2024

Volunteer Activities

Mathematics Teacher

TEACHER

Tehran, Iran

Sep. 2019 - Sep. 2021

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

Skills

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

Languages

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