

Ali Keramati

Cognition<->LLMs<->Learning

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Education

School of Education, University of California Irvine

Irvine, United States of America

PH.D IN EDUCATION (DIGITAL LEARNING & MEDIA)

Jan. 2025 - present

- CGPA: 4/4
- Related Courses: NRL NTWKS&DEEP LRNG (4/4) · LA FUNDAMENTALS (4/4) · NEURAL ARCH OF LANG (In Progress)

School of Electrical and Computer Engineering, University of Tehran

Tehran, Iran

B.SC. IN COMPUTER ENGINEERING (MAJOR STUDY)

Sep. 2019 - Jul. 2024

- 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)

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

- Learning Analytics
- Reasoning Across Humans and LLMs
- Human-AI Collaboration | CSCL
- Multi-Agent LLM Systems
- Computational Models of Human Learning
- Cognitive Evaluation of LLMs

Publications

Keramati, A. and Warschauer, M. (2025). "From General to Specific: Enhancing Automated Essay Scoring through Sequential Fine-Tuning". (In Preparation)

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.

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 Ahmadbadi 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*. (Under Review)

Research Experience

Digital Learning Lab

UNDER THE SUPERVISION OF PROF. M. WARSCHAUER

PapyrusAI · Automated Essay Scoring · LLMs Fine-tuning

UC Irvine

Jan. 2025 - Present

Mathe Lab

UNDER THE SUPERVISION OF PROF. S. DOROUDI

LLMs benchmarking Quiz · Performance Analysis

UC Irvine

Jan. 2025 - Present

LaLA-Lab

UNDER THE SUPERVISION OF PROF. N. NIXON

Human-Computer Interaction · Computational Social Sciences

UC Irvine

Apr. 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 · Self-regulated Learning · Adaptive Learning
Reinforcement Learning from Human Feedback · AI tools and platforms like Google Classroom and Discord enrich learning environment

University of Tehran

May. 2023 - Dec. 2024

Remote-University of Queensland

UNDER THE SUPERVISION OF PROF. R. GILLIES

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

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

Honors & Awards

2019 **Ranked Top 0.2% in Konkour**, National Organization of Educational Testing (NOET) *Tehran, Iran*

2025 **TPC Mentorship Fellowship**, UCI School of Education *Irvine, USA*

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 in a Discord Classroom (CSCL)

TA AGENT

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

Cognitive Systems Lab

Discord.py, Discord.js

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

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

Android Studio, Canvas

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

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

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

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

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