Ali **Keramati**

Cognition<->LLMs<->Learning

☐ (+1) 951-258-0875 | ✉ alikera2001@gmail.com | 🏠 *alikera.github.io* | ⧉ alikera | ⊡ ali-keramati

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**
- **Brain-inspired Archs for NLP**
- **Human Behavior and Learning Modeling**
- **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 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.* (Under Review)

Research Experience

Digital Learning Lab *UC Irvine*
Under the supervision of Prof. M. Warschauer *Jan. 2025 - Present*
PapyrusAI . Automated Essay Scoring . LLMs Fine-tuning

Mathe Lab *UC Irvine*
Under the supervision of Prof. S. Doroudi *Jan. 2025 - Present*
LLMs benchmarking Quiz . Performance Analysis

LaLA-Lab *UC Irvine*
Under the supervision of Prof. N. Nixon *Apr. 2025 - Present*
Human-Computer Interaction . Computational Social Sciences

Cognitive Systems Lab *University of Tehran*
Under the supervision of Prof. M. N. Ahmad Abadi *May. 2023 - Dec. 2024*
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

Remote-University of Queensland *University of Queensland*
Under the supervision of Prof. R. Gillies *Sep. 2021 - present*
Collaborative Learning . Interactive Learning Environments . Data Analysis using ATLAS.ti . Quantitative and Qualitative Research

UT NLP group *University of Tehran*
Under the supervision of Prof. M. J. Dousti & Prof. H. Faili *Feb. 2024 - Dec. 2024*
Large Language Models · Retrieval-Augmented Generation · Fine-tuning (LoRA and Adapters) · Knowledge and Reasoning

Technology Enhanced Learning Lab (TELAB) *University of Tehran*
Under the supervision of Prof. F. Taghiyareh *Mar. 2023 - Aug. 2023*
Interactive Learning Object · Personalized Learning · IEEE-LOMs extraction · Avida-ED for generating LOs based on Genetic Algorithm

National Brain Centre *Iran University of Medical Sciences*
Under the supervision of Prof. F. S. Mirfazeli *Jul. 2024 - Sep. 2024*
Autistic Brain and Learning Process · Automating ToM Assessment and Rehabilitation in Autism with a LLaMA-3-Powered Chatbot

Embodied Design Research Lab *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.

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**

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 *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 in a Discord Classroom (CSCL) *Cognitive Systems Lab*
TA Agent *Discord.py, Discord.js*
Gathers Students' Activity · Monitors Server · Makes Interventions to Encourage Students to be Engaged and Collaborate

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

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

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*
LangChain: Chat with Your Data DEEPLEARNING.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