Ali **Keramati**

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Education

College of Electric 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)

College 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)
- AI in Education
- CSCL
- RL4Ed & ML4Ed & LLMEd
- E-Learning
- Collaborative Learning

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.* (under review)

Keramati M. R., Majd Y., and Keramati A. (2023). **"Competition Is the Killer of Cooperation"**. *International Conference on Education and E-Learning (ICEEL-23)*.

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: Scaling Personalized Deep Learning with AI"**. (in preparation)

Keramati, M. R., Arefian, M. H., Majd, Y., Lavasani, M, G., and Keramati, A. (2023). **"The effect of cooperative learning on students' social-self-efficacy in science course: A mixed-methods design"**. *International Journal of Science Education*. (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 and platforms such as Google Classroom and Discord to enrich collaborative learning
LLMs for Personalized Content   ·   Self-regulated Learning   ·   Adaptive Learning   ·   For more details, explore our website

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

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

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

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**

Software Testing Head TA   **Software Engineering** Head TA   **Electrical Circuit**

Notable Academic Projects ───────────────────────────

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.

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

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

Music Genre Prediction   *Artificial Intelligence*

Machine Learning   *Scikit-Learn*

K-Nearest Neighbors   ·   Decision Tree   ·   Random Forest models

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

Decoding Encoded Text   *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

Congestion Control   *Computer Networks*

Sliding Window Protocol   *C, sys/socket.h*

UDP Sockets   ·   Go-Back-N ARQ Protocol   ·   RED Mechanisms

XV6 Kernel   *Operating Systems Lab*

Modified XV6 Kernel   *C, xv6*

New System Calls   ·   Three New Custom Task Schedulers   ·   Process Synchronization using Semaphore

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*

Skills

Programming	Advanced: C/C++, Python, Java High Intermediate: C#, SQL, Javascript Intermediate: LaTeX, Verilog, HTML/CSS Familiar: GoLang, R
Technologies	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