

# Kianoosh Vadaei

📍 Isfahan, Iran

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in [kianoosh-vadaei](#)

🔗 [kia-vadaei](#)

## Education

- BE** **University of Isfahan**, Computer Engineering Sept 2021 – Present
- **GPA:** 3.59/4.0 (17.22/20.0)
  - **Bachelor's Research Project:** Exploring Self-Supervised Learning in Natural Language Processing (Ongoing)

## Research Interests

Natural Language Processing (NLP), Computer Vision, AI Explainability and Interpretability

## Publications

### **Adaptive Chunking for VideoRAG Pipelines with a Newly Gathered Bilingual Educational Dataset,**

Arshia Hemmat, **Kianoosh Vadaei**, Melika Shirian, Mohammad Hassan Heydari; Afsaneh Fatemi  
2025 29th International Computer Conference, Computer Society of Iran (CSICC), Tehran, Iran

### **Leveraging Retrieval-Augmented Generation for Persian University Knowledge Retrieval Knowledge Retrieval,**

Arshia Hemmat, **Kianoosh Vadaei**, Mohammad Hassan Heydari, Afsaneh Fatemi  
2024 15th International Conference on Information and Knowledge Technology (IKT), Isfahan, Iran

[Link](#) [🔗](#)

## Research Experience

- Adaptive Chunking for VideoRAG** 2025
- Developed an adaptive chunking method to improve VideoRAG for bilingual educational content.
  - Developed a bilingual dataset, improving retrieval accuracy and efficiency.  
**Accepted and Published at CSICC**
- Retrieval-Augmented Generation on Persian question-answering Dataset** 2024
- Built a vector database from the university website for document retrieval
  - Evaluated RAGAS metrics on the RAG system using different LLMs  
**Accepted and Published at IKT**
- Multilingual 3D Shape Understanding in Vision-Language Models** 2025
- Translated CLEVR and SuperCLEVR datasets and created questions for CLEVR-Text.
  - Assessed VLMs and LLMs for multilingual question-answering with images.  
**Planned submission to COLM 2025**
- AI Research & Development Intern**, Hoopad Company June 2024 – Aug 2024
- Led AI research on Siamese networks for enhanced face recognition.
  - Integrated STT, TTS, and LLM function calling for optimized assistant performance.

## Teaching Experience

### Teaching Assistant

- **Fundamentals of Computer Programming** (4 times)  
Fall 2022 (Prof. Mojtaba Mahdavi, Prof. Reza Ramezani), Fall 2023 (Prof. Mojtaba Mahdavi, Prof. Hossein Mahvash),  
University of Isfahan

- **Advanced Programming (C# and C++)** (4 times)  
Spring 2023 (Prof. Mahdi Kiani, Prof. Mojtaba Mahdavi), Spring 2024 (Prof. Ehsan Mahdavi, Prof. Mojtaba Mahdavi), University of Isfahan
- **Algorithms Analysis and Design**  
Fall 2023 (Prof. Arash Shafiei), University of Isfahan
- **Computer Architecture**  
Spring 2023 (Prof. Mehran Rezaei, Prof. Mahdi Kalbassi), University of Isfahan
- **Fundamentals of IoT**  
Fall 2024 (Prof. Ali Bohlooli), University of Isfahan
- **Microprocessors and Assembly Language**  
Fall 2024 (Prof. Mahdi Kalbassi), University of Isfahan
- **Applications of Artificial Intelligence in Cybersecurity**  
Spring 2025 (Prof. Ehsan Mahdavi), University of Isfahan

## Course Instruction

- **Fundamentals of Python Programming Course Instructor**  
University of Isfahan, Cultural and Educational Affairs Office
- **Retrieval-Augmented Generation (RAG) Fundamentals Course Instructor**  
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## Selected Courses

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**Fundamentals of Artificial Intelligence** (17.75/20), **Fundamentals of Computational Intelligence** (19/20), **Fundamentals of Machine Learning** (20/20), **Applications of Artificial Intelligence in Cybersecurity** (20/20), **Special Topics - Deep Learning** (19.8/20), **Fundamentals of IoT** (20/20).

## Work Experience

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### University of Isfahan Artificial Intelligence Community (UIAI)

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|---|---------------------|
| <b>Chairman</b>   | Mar 2023 – May 2025 |
| <ul style="list-style-type: none"> <li>• Led the UIAI community for two terms, organizing events and AI competitions.</li> </ul>      |                     |
| <b>Chief Secretary</b>  |                     |
| <ul style="list-style-type: none"> <li>• Directed Gradient, UIAI's official magazine, overseeing content and publications.</li> </ul> |                     |

### TEDx University of Isfahan

- |   |                     |
|---|---------------------|
| <b>Organizer</b>  | Aug 2023 – Feb 2024 |
| <ul style="list-style-type: none"> <li>• Organized and executed the 4th TEDx University of Isfahan event, overseeing multiple teams and ensuring compliance, with 100+ participants.</li> </ul> |                     |
| <a href="#">Event Page Link</a>   |                     |
| <b>Co-Organizer</b>   | Jan 2024 – Present  |
| <ul style="list-style-type: none"> <li>• Co-Organizing the 5th TEDx University of Isfahan event.</li> </ul>   |                     |
| <a href="#">Event Page Link</a>   |                     |

### 7th International Conference on Internet of Things and Its Application

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|---|------|
| <b>Executive Committee Member</b>   | 2023 |
| <ul style="list-style-type: none"> <li>• Executive Committee Member for the 7th IoT Conference, handling communication, coordination, and logistics.</li> </ul> |      |

## Skills

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### Hard Skills

- **Advanced:** Python, C++, Pytorch
- **Intermediate:** Keras, C#

### Language

- **English:** IELTS 7.5 (Listening: 8.0, Reading: 7.5, Writing: 7.0, Speaking: 7.0), C1
- **Persian:** Mother Tongue