# Reza (Rey) Sanayei

+1-520-257-9823 | rsanayei@arizona.edu | rsanayei.github.io | linkedin.com/in/rsanayei/

## EDUCATION

**University of Arizona**                                                                                          **Tucson, Arizona**
Master of Science in **Computer Science**                                                                           May 2026
Bachelor of Science in **Computer Science (Honors)**                                                                May 2024
- **GPA: 3.96/4.0**
- **Excellence in Undergraduate Research Award Recipient**
- **Galileo Circle Scholar (**Selected as **one of six top performers among 1,277 undergraduates** in Computer Science)
- **Phi Beta Kappa Membership** (**Top 5% of class**)

## RESEARCH EXPERIENCE

**Research Assistant**                                                                                              **Tucson, Arizona**
*University of Arizona - Computational Language Understanding Lab*                                    August 2023 – Present
- **Advisors**: Dr. Mihai Surdeanu, Dr. Steven Bethard
- Evaluated **LLM** performance against state-of-the-art formal **Computational Argumentation Theory** semantics
- Proposed frameworks to enhance LLM performance, laying groundwork for future advancements in argument semantics
- Orchestrated ensemble models using **language models** and **text retrieval libraries** for diverse hallucination detection
- Designed a multilayer model for learning **LLM** authorship styles to detect machine-generated text
- Authored two **first-author papers**: one published in **SemEval 2024** and one under review at **EMNLP 2024**

**Undergraduate Research Assistant & Software Developer**                                                           **Tucson, Arizona**
*University of Arizona - Pauli Lab*                                                                   April 2023 - February 2024
- Developed high-throughput phenotyping pipelines for data from the world's largest plant phenotyping robot
- Utilized the university's **High-Performance Computing** cluster for efficient, distributed data processing
- Designed **CNN** models for crop-level panicle detection on Field Scanner Data

## TECHNICAL SKILLS

**Programming Languages:** Python, Java, C, SQL, Swift, JavaScript, R
**Tools & Frameworks:** Docker, Git, Bash, MongoDB, REST API, Maven, PyTorch, TensorFlow, Transformers, NumPy

## PROFESSIONAL EXPERIENCE

**Machine Learning Engineering Intern - NLP**                                                                       **Remote**
*Pido - One of the largest fuel delivery companies in the Middle East*                                 May 2023 – August 2023
- Led an NLP project analyzing Persian social media data for traffic insights, optimizing fuel delivery vehicle allocation
- Engineered sentiment analysis and location extraction ML models to enhance fuel allocation strategies

**Software Engineering Intern**                                                                                     **Remote**
*Namava - VOD service with +6 million users in the Middle East*                                        May 2022 – August 2022
- Enhanced backend services and database query efficiency, achieving a **20% reduction in latency**
- Played a key role in integrating third-party payment APIs, streamlining the user subscription process

## PUBLICATIONS

**Reza Sanayei**, Srdjan Vesic, and Mihai Surdeanu. 2024. Can Large Language Models Judge Debates? Analyzing the Performance of LLMs on Natural Language Arguments. *Submitted to the Conference on Empirical Methods in Natural Language Processing (EMNLP 2024), 2024*. Association for Computational Linguistics

**Reza Sanayei**, Abhyuday Singh, MohammadHossein Rezaei, and Steven Bethard. 2024. MARiA at SemEval 2024 Task-6: Hallucination Detection Through LLMs, MNLI, and Cosine similarity. *In Proceedings of the 18th International Workshop on Semantic Evaluation (SemEval-2024)*, Mexico City, Mexico. Association for Computational Linguistics

MohammadHossein Rezaei, Yeaeun Kwon, **Reza Sanayei**, Abhyuday Singh, and Steven Bethard. 2024. CLULab-UofA at SemEval-2024 Task 8: Detecting Machine-Generated Text Using Triplet-Loss-Trained Text

Similarity and Text Classification. *In Proceedings of the 18th International Workshop on Semantic Evaluation (SemEval-2024)*, Mexico City, Mexico. Association for Computational Linguistics

## COURSEWORK

Object-Oriented Programming, Mobile Application Programming, Databases, OS, Algorithms, Computer Architecture, Machine Learning (graduate), Neural Networks, NLP (graduate), Computer Vision, Computer Graphics

## TEACHING EXPERIENCE

**Course Coordinator - Object-Oriented Programming & Design** Tucson, Arizona
*University of Arizona, Department of Computer Science* August 2022 – May 2024
• Trained and **supervised 8 TAs**, enhancing course delivery and student engagement for over **160 students**
• **Designed 3 key programming assignments** and oversaw a comprehensive 5-week final group project
• Assisted in the outreach and interview procedures for new TA hiring and interviews, **conducting over 200 interviews**

**Teaching Assistant - Analysis of Discrete Structures, Software Development** Tucson, Arizona
*University of Arizona, Department of Computer Science* August 2021 – August 2022
• Conducted detailed grading and provided personalized feedback for programming assignments and exams
• **Mentored a cohort of 20 students** through weekly office hours, improving their understanding of key course concepts
• Led supplemental instruction sessions focused on development environment setup and exam preparation

## LEADERSHIP & VOLUNTEER EXPERIENCE

**Computer Science Ambassador**, *University of Arizona* January 2024 – May 2024
• Supported outreach to Tucson high schools, sharing insights with students to encourage interest in Computer Science
• Helped organize the Spring 2024 career fair, guiding student check-in and event navigation for a pleasant experience
• Developed advertising materials and outreach strategies for the department's recruiting efforts

**President, Google Developer Student Club**, *University of Arizona* August 2023 – Present
• Revitalized the chapter, **growing active participation from 15 to over 70 members**
• Hosted a series of workshops on Google technologies, ML, NLP, Computer Vision, and Android Development

**College of Science Ambassador**, *University of Arizona* August 2023 – May 2024
• Nominated as the sole representative by the Department of Computer Science to engage with and represent the college
• Facilitated new student orientations and departmental tours, led info sessions for prospective students and parents

**Computer Science Peer Mentor**, *University of Arizona* February 2023 – May 2024
• Guided first-year students with academic and research advice, fostering social integration and a sense of community
• Organized information sessions on course selection, sharing experiences to inspire and inform students

## PROJECTS

**Jeopardy!** April 2023
• **Indexed and retrieved data from 280,000 Wikipedia pages** with **Lucene**, addressing specific content challenges
• Implemented a QA system using **K-means clustering**, followed by **supervised ranking**

**Wordle Android App** May 2022
• Recreated the popular Wordle game for **Android** using **Java** and **SQLite**
• Added the global leaderboard, player profile, and replayability features for a more competitive version of the game

**3D Scene Library** April 2022
• Built a library in **C** that creates in-memory data structures representing 3D scenes using nested **structs**
• Implemented functions for saving and writing the 3D scenes to **STL** files in both text and binary formats