

# Keivan Rezaei

*Curriculum Vitae*

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Homepage

## EDUCATION

2022 – NOW **Doctor of Philosophy**  
Computer Science  
University of Maryland, College Park  
*Supervised by Prof. Feizi and Prof. Hajiaghayi*

2022 – 2024 **Master of Science**  
Computer Science  
University of Maryland, College Park

2018 – 2022 **Bachelor of Science**  
RANK 1<sup>ST</sup>, GPA: 19.85/20  
Computer Engineering  
Sharif University of Technology

## RESEARCH INTEREST

interpretability vision-language models generative AI

## RESEARCH EXPERIENCE

SEP 2022 – NOW  
*Graduate Research Assistant, Reliable AI Lab, University of Maryland*  
Research on interpretability, robustness, failures model, and biases in vision-language generative and discriminative models.  
*supervised by Prof. Soheil Feizi*

MAY 2024 – NOW  
*Research Intern, MOSAIC, Allen Institute for AI (Ai2)*  
Research on LLM unlearning, proposing new benchmarks and algorithms for effective unlearning in case of knowledge conflict.  
*supervised by Dr. Abhilasha Ravichander*

JULY 2021 – SEPTEMBER 2021  
*Research Intern, Theory of Machine Learning Lab, EPFL*  
Research on the convergence rate of the optimization algorithms in machine learning.  
*supervised by Prof. Nicolas Flammarion*

JULY 2020 – SEPTEMBER 2020  
*Research Intern, Max Planck Institute*  
Research on solving semi-definite programming based on Physarum mathematical model.  
*supervised by Prof. Andreas Karrenbauer*

## TEACHING EXPERIENCE

Teaching Assistant

FALL 2022 *Design and Analysis of Algorithms (UMD)*

FALL 2021 *Design of Algorithms (Sharif)*

FALL 2020 *Compiler Design (Sharif)*

Algorithms and Programming Instructor

2017-2019 *Allame Helli Highschool*

## AWARDS

### International Collegiate Programming Contest (ICPC)

2023 *ICPC World Finalist (unable to attend due to visa issues)*

2023 *Ranked 3<sup>rd</sup>, ICPC North America Championship*

2020 *Ranked 33<sup>rd</sup>, ICPC World Finals*

2019 *Ranked 1<sup>st</sup>, Asian Regional Contest*

2018 *Ranked 2<sup>nd</sup>, Asian Regional Contest*

### Olympiad in Informatics

2018 *Silver Medal, 30<sup>th</sup> International Olympiad in Informatics*

2018 *Silver Medal, 11<sup>th</sup> Asia-Pacific Informatics Olympiad*

2017 *Gold Medal, 27<sup>th</sup> Iranian National Olympiad in Informatics*

Awarded the University of Maryland **Dean's Fellowship**

## PUBLICATIONS

PRIME: Prioritizing Interpretability in Failure Mode Extraction  
**Keivan Rezaei\***, Mehrdad Saberi\*, Mazda Moayeri, Soheil Feizi  
ICLR 2024

RESTOR: Knowledge Recovery through Machine Unlearning  
**Keivan Rezaei**, Khyathi Chandu, Soheil Feizi, Yejin Choi, Faeze Brahman, Abhilasha Ravichander  
ARXIV PREPRINT

On Mechanistic Knowledge Localization in Text-To-Image Generative Models  
S Basu\*, **Keivan Rezaei\***, P Kattakinda, VI Morariu, N Zhao, RA Rossi, V Manjunatha, S Feizi  
ICML 2024

Text-To-Concept (and Back) via Cross-Model Alignment  
Mazda Moayeri\*, **Keivan Rezaei\***, Maziar Sanjabi, Soheil Feizi  
ICML 2023

Understanding and Mitigating Compositional Issues in Text-to-Image Generative Models  
A Zarei\*, **K Rezaei\***, S Basu, M Saberi, M Moayeri, P Kattakinda, S Feizi  
ARXIV PREPRINT

Run-Off Election: Improved Provable Defense against Data Poisoning Attacks  
**Keivan Rezaei\***, Kiarash Banihashem\*, Atoosa Chegini, Soheil Feizi  
ICML 2023

Robustness of AI-Image Detectors: Fundamental Constraints and Practical Attacks  
Mehrdad Saberi, Vinu Sankar Sadasivan, **Keivan Rezaei**, Aounon Kumar, Atoosa Chegini, Wenxiao Wang, Soheil Feizi  
ICLR 2024

Multi-agent Delegated Search  
 $\alpha, \beta$  Mohammad Hajiaghayi, **Keivan Rezaei**, Suho Shin  
EC 2023

## OTHER EXPERIENCES

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FALL 2019 - SUMMER 2022

*Scientific Member, Iranian National Olympiad in Informatics Committee*

I was Iran's team leader at the International Olympiad in Informatics 2021, with additional responsibilities including designing exams to select talented students and conducting preparation camps.

WINTER 2022 - SUMMER 2022

*Data Scientist, Torob*

Torob is a search engine that allows customers to find the cheapest price for items. I worked on improving, and analyzing Torob's search engine results along with providing some baseline solutions for Torob Challenge.

FALL 2019, FALL 2020

*Technical Staff, Sharif AI Challenge*

Developed server code and simulated the game in Fall 2019, and designed the game in Fall 2020.

SPRING 2019

*Head of Quera College Data Structure Course, Quera*

Responsible for providing educational materials.

## SKILLS

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**Machine Learning Libraries**, torch, numpy, pandas.

**Linux**, shell and Bash scripts.

**Algorithms and Competitive Programming**, as IOI and ICPC awards suggest.

**Programming Languages**, C++, Python, and Java.

**Software Engineering**, object-oriented design patterns and other development methodologies.

🔖 A Regret Analysis of Repeated Delegated Choice

Mohammad Hajiaghayi, Mohammad Mahdavi, **Keivan Rezaei**, Suho Shin

AAAI 2024

🔖 Ad Auctions for LLMs via Retrieval Augmented Generation

$\alpha, \beta$  Mohammad Hajiaghayi, Sébastien Lahaie, **Keivan Rezaei**, Suho Shin

NEURIPS 20224