

# KAHBOD AEINI

Electrical and Computer Engineering Department, University of Waterloo, Waterloo, Ontario, Canada  
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## EDUCATION

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<b>University of Waterloo</b> PhD in Electrical and Computer Engineering Supervisor: Prof. Wojciech Golab	Jan 2026 - Ongoing
<b>University of Calgary</b> Master of Computer Science Supervisor: Prof. Philipp Woelfel Thesis: <i>Space-Optimal Randomized Wait-Free Lock</i>	2023 - Ongoing
<b>Sharif University of Technology</b> Bachelor of Computer Engineering Thesis: <i>Fraud Detection from Sequences of Bank Transactions Using Various Machine Learning Algorithms</i>	2019 - 2023
<b>National Organization for Development of Exceptional Talents</b> High School Diploma in Mathematics and Physics	2013 - 2019

## RESEARCH INTERESTS

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Distributed Systems, Concurrent & Randomized Algorithms, Advanced Data Structures, Blockchain, Database Systems, Machine Learning and Computational Biology

## RESEARCH EXPERIENCE

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<b>Distributed Algorithms</b> , Research Assistant, Graduate Student Supervisor: Prof. Philipp Woelfel, University of Calgary Designed and analyzed randomized wait-free lock algorithms achieving optimal trade-offs between space and time complexity in shared memory systems, including the first space-optimal algorithm and complementary time-optimal variants.	Jun 2024 - Jun 2025
<b>Bioinformatics</b> , Research Assistant (Volunteer, Remote) Supervisor: Prof. Mehdi Pirooznia, Johns Hopkins University Conducted feature selection and developed machine learning models to predict immune cell composition in lung cancer. Performed identification of immune cell types, analysis of differentially expressed genes, functional enrichment analysis, and classification of cancer subtypes using machine learning techniques.	Feb 2023 - Aug 2023
<b>Deep Learning</b> , Research Assistant, Machine Learning Supervisor: Dr. Fatemeh Baharifar & Dr. Vahid Motaghed, <i>IPM</i> Developed and evaluated face clustering algorithms using graph convolutional networks (GCN) for linkage prediction and pairwise classification approaches.	Oct 2021 - Feb 2022

## WORK EXPERIENCE

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<b>Software Engineer Intern</b> , ArcTrade	Dec 2025 - Ongoing
• Developing backend services and APIs for financial trading applications using Python and Docker.	
<b>Data Engineer</b> , AI Lida	Feb 2022 - Sep 2022
• Developed, maintained and optimized data pipelines for ETL processes using Python and PostgreSQL.	
• Collaborated with the security department to gather requirements and deliver data solutions that	

supported business objectives.

- Interviewed, hired, trained and supervised a team of 5 data engineer interns, providing mentorship and performance feedback.

## TEACHING EXPERIENCE

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### University of Calgary

2023 - 2025

Led and managed TA teams across undergraduate and graduate courses (up to 300 students), covering algorithms, programming, and theoretical computer science.

- **Programming Paradigms (Fall 2025)** — Managed 6 TAs, organized and held tutorials in Haskell & Prolog for 75+ students.
- **Randomized Algorithms (Graduate, Fall 2024)** — Delivered tutorials on randomized data structures, lower bound techniques, and complexity classes.
- **Theoretical Foundations of Computer Science II (Winter 2024 & 2025)** — Coordinated 7 TAs, supported 150+ students in automata theory and probability.
- **Python Programming (Fall 2023)** — Taught fundamentals of Python, data structures, and algorithms for 50+ students.

### Sharif University of Technology

2020 - 2022

Served as Head TA across multiple undergraduate courses, leading and mentoring TA teams of 10-25 members while supporting 200+ students in core computer science subjects.

- **Data Structures and Algorithms** — Designed assignments & projects, led TA group of 25+.
- **Numerical Calculations** — Developed final project curriculum, led TA group of 10+.
- **Mobile Programming** — Designed and graded Android development projects.

## AWARDS AND SCHOLARSHIPS

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**Departmental Research Award**, Department of Computer Science, University of Calgary 2023  
Won the RA award, which is granted to the best students in each department to step away from TA responsibilities and focus on their research

**Top 100 Students in Country** 2019

Ranked 94 (31st in the Region) in National Universities Entrance Exam among around 160,000 participants

**National Elites Fellowship** 2019

Fellowship in Iran's National Elites Foundation

## SKILLS

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**Languages:** Python, R, Haskell, Java, C/C++, Prolog, Android

**Frameworks & Tools:** PyTorch, TensorFlow, scikit-learn, Django, Numpy, Pandas, OpenCV, limma

**Databases:** PostgreSQL, MongoDB, MySQL

**Other:** Linux, NixOS, Kali