

# SEYED MOHAMMAD SADEGH MAHDAVI

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## EDUCATION

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### University of British Columbia

Ph.D. in Electrical and Computer Engineering

2023–2027

M.A.Sc. in Electrical and Computer Engineering

2021–2023

Supervisors: Renjie Liao and Christos Thrampoulidis

### Sharif University of Technology

2017–2021

B.Sc. in Computer Engineering, GPA: 19.07/20.00

## RESEARCH EXPERIENCE

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### University of British Columbia

Sept. 2021 – Present

Research Assistant

Working on the out-of-distribution generalization of deep learning models under the supervision of Prof. Liao and Prof. Thrampoulidis. My current focus is understanding the in-context learning capabilities of the Transformer architecture.

### Sharif University of Technology

Mar. 2020 – Jul. 2020

Research Assistant, Machine learning Lab

Worked on few-shot medical image segmentation using image registration methods, under the supervision of Prof. Soleymani. Improved the Dice scores by 2%.

## PUBLICATIONS

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1. **Sadegh Mahdavi**, Kevin Swersky, Thomas Kipf, Milad Hashemi, Christos Thrampoulidis, and Renjie Liao. Towards better out-of-distribution generalization of neural algorithmic reasoning tasks. *Transactions on Machine Learning Research (TMLR)*, 2023

## AWARDS AND HONORS

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- UBC Four Year Doctoral Fellowship (4YF) 2023
- Silver Medal in 58th **International Mathematical Olympiad**, Rio de Janeiro, Brazil 2017
- Silver award in XXIX Asian Pacific Mathematics Olympiad 2017
- Gold Medal at 28th Iran National Mathematics Olympiad, Tehran, Iran 2016

## TECHNICAL EXPERIENCE

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### CafeBazaar

Aug. 2018 – Oct. 2019

Software Engineer (Part-time)

Worked as a Back-End software engineer at Divar product, the leading classified ads service in Iran with more than 20 million users.

## TEACHING EXPERIENCE

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### University of British Columbia

- CPEN400D (Deep Learning) Winter 2022
- ELEC400M (Machine Learning Fundamentals for Engineers) Winter 2021, Fall 2022

## VOLUNTEER EXPERIENCE

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- Served as the scientific lead of Sharif AI Challenge 2020, an annual AI contest held at Sharif University of Technology.

## SELECTED COURSES

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- Deep Learning with Structures \*
- Graphical Models & Causal Inference\*
- Deep Reinforcement Learning\*
- Measure Theory and Integration\*
- High-Dimensional Probability\*
- Convex Optimization\*
- Computer Vision
- Information and Coding Theory\*
- Probability and Statistics
- Linear Algebra
- Algorithm Design
- Game Theory
- Advanced Information Retrieval

\* indicates a graduate course

## SKILLS

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<b>General</b>	L <sup>A</sup> T <sub>E</sub> X
<b>Languages and Tools</b>	C, Python, Docker, Kubernetes.
<b>Web Development</b>	Django web framework.
<b>Machine Learning</b>	PyTorch, JAX.

## LANGUAGES

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<b>Persian</b>	Native
<b>English</b>	Fluent (TOEFL: 104)
<b>Arabic</b>	Reading knowledge