Seyed Sobhan Mir Yoosefi

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EDUCATION

◇ **Ph.D. in Computer Science** 09/2017 - 05/2022
Princeton University
Advisor: Prof. Chi Jin and Robert Schapire
Thesis: Provable RL with Constraints and Function Approximation

◇ **M.A. in Computer Sceiece** 09/2017 - 06/2019
Princeton University
Advisor: Prof. Yoram Singer and Robert Schapire

◇ **B.Sc. Degree in Computer Engineering** 09/2013 - 07/2017
Sharif University of Technology, Tehran, Iran
Field : Computer Engineering - Software

WORK EXPERIENCE

◇ **Google** July 18, 2022 - present
Software Engineer at Google Research NYC
Developing principled methodologies to train of large-scale machine learning models focusing on efficiency and scalability
Team: FLOS, BigML, SWEFF
Manager: Sashank Reddi

◇ **Google** September 7, 2021 - December 10, 2021
Research Intern, FLOS
Conducting experiments to fasciliate and improve model training in Google Ads
Hosts: Himanshu Jain and Kaushal Patel

◇ **Snap Inc.** May 24, 2021 - August 20, 2021
Software Engineer Intern, Ad-ranking
Conducting research and experiments to improve ranking models for Ads
Host: Xiang Wu

◇ **Princeton University** September 13, 2017 - May 24, 2022
Research and Teaching Assistant
Conducting research on my thesis topic *Provable RL with Constraints and Function Approximation* and assisting faculties with instructional responsibilities
Advisor: Chi Jin

◇ **Cafebazaar** July 12, 2016 - August 23, 2016
(Required by B.Sc. curriculum) Software Developer Intern
Developing a customized Android OS used by fraud detection team

PUBLICATIONS

◇ **Reinforcement Learning with Convex Constraints**
NeurIPS 2019
Sobhan Miryoosefi, Kianté Brantley, Hal Daumé III, Miroslav Dudik, Robert Schapire

◇ **Constrained Episodic Reinforcement Learning in Concave-convex and Knapsack Settings**
NeurIPS 2020
(by alphabetical order) Kianté Brantley, Miroslav Dudik, Thodoris Lykouris, Sobhan Miryoosefi, Max Simchowitz, Aleksandrs Slivkins, Wen Sun

◇ **Bellman Eluder Dimension: New Rich Classes of RL Problems, and Sample-Efficient Algorithms**
NeurIPS 2021 **Spotlight**

(by alphabetical order) Chi Jin, Qinghua Liu, Sobhan Miryoosefi

◇ **A Simple Reward-free Approach to Constrained Reinforcement Learning**
ICML 2022
Sobhan Miryoosefi, Chi Jin

◇ **Provable Reinforcement Learning with a Short-Term Memory**
ICML 2022
(by alphabetical order) Yonathan Efroni, Chi Jin, Akshay Krishnamurthy, Sobhan Miryoosefi

◇ **Efficient Training of Language Models using Few-Shot Learning**
ICML 2023
Sashank J. Reddi, Sobhan Miryoosefi, Stefani Karp, Shankar Krishnan, Satyen Kale, Seungyeon Kim, Sanjiv Kumar

◇ **On the Inductive Bias of Stacking Towards Improving Reasoning**
NeurIPS 2024
Nikunj Saunshi, Stefani Karp, Shankar Krishnan, Sobhan Miryoosefi, Sashank J. Reddi, Sanjiv Kumar

◇ **Rest Meets REACT: Self-Improvement for Multi-Step Reasoning LLM Agent**
ICLR Workshop 2024
Renat Aksitov, Sobhan Miryoosefi, Zonglin Li, Daliang Li, Sheila Babayan, Kavya Kopparapu, Zachary Fisher, Ruiqi Guo, Sushant Prakash, Pranesh Srinivasan, Manzil Zaheer, Felix Yu, Sanjiv Kumar

◇ **Efficient Stagewise Pretraining via Progressive Subnetworks**
[preprint]
Abhishek Panigrahi, Nikunj Saunshi, Kaifeng Lyu, Sobhan Miryoosefi, Sashank Reddi, Satyen Kale, Sanjiv Kumar

◇ **Landscape-Aware Growing: The Power of a Little LAG**
[preprint]
Stefani Karp, Nikunj Saunshi, Sobhan Miryoosefi, Sashank J. Reddi, Sanjiv Kumar

RESEARCH EXPERIENCE

◇ NLP & Generative AI
◇ Theoretical and Applied Machine Learning
◇ Reinforcement Learning & Online Learning

HONORS AND AWARDS

◇ Recipient of **Google Tech Impact Award 2024** 2024
◇ Princeton first year **fellowship** in Natural Sciences and Engineering 2017
◇ **3rd place** in ACM-ICPC Greater New York Regional Contest 2017
◇ **2nd place** in 15th & 16th Regional Contest of ACM-ICPC in Asia 2013 & 2014
◇ **Gold Medal** in *Iranian National Olympiad in Informatics* 2012
Awarded a gold medal among more than 4000 contestants

SKILLS

- ◇ **Programming**: C++, Python, Java, Matlab
- ◇ **ML Framework**: Jax, TensorFlow, PyTorch
- ◇ **Language**: English, Persian
- ◇ **Document Preparation:** Microsoft Office, LaTeX

TEACHING EXPERIENCE

- ◇ **Princeton University** 2017 - 2022
  Teaching Assistant
  Courses: Advanced Algorithm Design (Fall 2018), Theoretical Machine Learning (Spring 2019), Introduction to Machine Learning (Spring 2020), Convex Optimization (Fall 2020)
- ◇ **Mathematics of Machine Learning Summer School** Summer 2019
  Organized by Microsoft Research and University of Washington
  Teaching Assistant
  Topic: Statistical Learning Theory
- ◇ **Sharif University of Technology**
  Teaching Assistant
  Courses: Probability and statistics (Fall 2015), Design of Algorithms (Fall 2015 & 2016), Computer Architecture (Spring 2016)
- ◇ **Preparation of Iran National Olympiad in Informatics** 2013 - 2017
  Training students during *INOI*'s summer camp, where I present subjects on Graph Theory, Algorithms, and Programming to qualified applicants from whom the members of the national team for IOI are to be selected.
  Preparation of theoretical and programming contests.
- ◇ **Teaching Olympiad in Informatics Related Topics** 2012 - 2017
  Preparing high school students for Olympiad in Informatics
  Topics: Algorithms, Graph Theory, Programming, Combinatorics

SERVICES

- ◇ Program Commitee for ICML 2020 workshop
  Theoretical Foundation of Reinforcement Learning
- ◇ Reviewer for ICML 2021
- ◇ Program Commitee for ICML 2021 workshop
  Reinforcement Learning Theory
- ◇ Reviewer for NeurIPS 2021
- ◇ Reviewer for CISS 2022