

(236) 979-9944
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Mohammad Amin Roohi

M.A.Sc student

Portfolio: m5a0r7.github.io
github.com/m5a0r7
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+3 years working with machine learning and deep learning methods. Working in depth with the theories for research with a focus on optimization as well as python programming.

SKILLS

Tools and Languages	Python:Tensorflow, PyTorch, NumPy, Pandas, Sklearn, OpenCV Julia, C/C++, R, Java, Cuda, Git, \LaTeX , Markdown, MySQL
Cloud	AWS
Quantitative Research	Mathematical optimization, Machine Learning, Deep Learning, Mathematical Modeling
Communication	English

EDUCATION

Master of Electrical and Computer Engineering , <i>University of British Columbia</i>	Sep 2020-Present
BSc, Dual major in Electrical Engineering and Computer Science , <i>Sharif University of Technology</i>	2014-2019

WORK EXPERIENCE

AI Research scientist <i>UBC</i>	Sep 2020 — Present <i>Vancouver, BC</i>
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- Developing Safe Optimization algorithm.
- Design a new safe optimization algorithm, got a faster convergence rate.
- Developing Accelerated and momentum algorithm in online optimization setting.
- Designed an accelerated no-regret algorithm for online optimization.

AI Research Assistant <i>UBC</i>	Jan 2021 — Present <i>Vancouver, BC</i>
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- A project between UBC, Monash University, and Kohler company.
- Implementing safe optimization algorithm and providing a PyPI library.
- Designed a mathematical model for composite manufacturing.
- Developed a new method and relaxed the conditions for using safe optimization in practice.
- Gathered a dataset and developed an automated simulated data generation in the Raven simulator.
- Improved the final product's quality and ready to utilize in practice and reduced the manufacturing loss.

Teaching Assistant <i>Introduction to Data Science, UBC</i>	Jan 2022 — Present <i>Vancouver, BC</i>
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- Teaching assistant and grader in Data Science Course.
- The course had more than 700 students.
- Talking to students about projects and giving ideas.
- Monitoring the students' questions, help them to gain intuition and proper programming skill in data science.

Data Scientist and Backend Developer <i>Rahpa Company</i>	Dec 2019 — Jan 2020 <i>Tehran, Iran</i>
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- Defining and Optimizing different metrics to observe and control the behavior of drivers.
- Design metrics for finding the optimal routes for a driver.

Bachelor Thesis <i>Sharif University of Technology</i>	Jul 2018 — May 2019 <i>Tehran, Iran</i>
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- Mental fatigue detection using time series.
- Using Machine Learning algorithms and some statistical features with the help of Brain Connectivity knowledge.

Research Assistant <i>Institute for Research in Fundamental Sciences (IPM)</i>	Jun 2018 — Feb 2019 <i>Tehran, Iran</i>
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- Seizure predicting using EEG signals.
- Using Machine Learning and Statistical Signal Processing techniques on epileptic EEG
- Working with big data

Head TA <i>Machine Learning and Computer Vision Lab, Sharif University</i>	Sep 2018 — Jun 2019 <i>Tehran, Iran</i>
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- Running the machine learning and computer vision lab as TA and Head TA
- Design an new experiment for the students
- Defining different project like body motion detection, face feeling detection

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Teacher

Young Scholars Club (YSC)

Jun 2016 — Sep 2016

Tehran, Iran

- Holding Geometry part of Mathematical Olympiad.
- Designing questions, Grading exams in the 3rd -final- round of IRAN national Mathematical Olympiad.

PUBLICATIONS

Fast Safe Frank-Wolfe under Uncertain Constraints (ongoing)	Summer 2022
Accelerated methods in Quadratic game theoretic problem and Cournot Game (ongoing)	Summer 2022
Safe non-convex Black-box optimization for manufacturing (ongoing)	Summer 2022

AWARDS

Research Assistant-ship at UBC

Grant for the NFRF project (12k)

Talented student at Sharif University of Technology

PROJECTS

Telegram Bot

Created a telegram bot as hobby

COVID Lockdown

Tehran, Iran

- Receiving requests for money exchange and keeping them in the database
- Matching people to each other that are a good fit for exchange
- Notify people if the bot finds a good fit in any time