Mohammad Reza Samsami

M.Sc. Student · Computer Science / Artificial Intelligence

Mila - Quebec AI Institute / Université de Montréal

mohammad-reza.samsami@mila.quebec | www.mrsamsami.github.io | mrsamsami | mohammadrezasamsami

Research Interests

(Deep) Reinforcement Learning, Causality, Bayesian Machine Learning, Scaling Laws, Reasoning

Education

Mila - Quebec AI Institute / Université de Montréal *Montréal, Canada*

M.Sc. in Computer Science *2021 - 2023*

- Supervisors: Prof. Sarath Chandar, Prof. Irina Rish
- **GPA: 4.1 / 4.3**

Sharif University of Technology *Tehran, Iran*

B.Sc. in Computer Science *2016 - 2021*

- **GPA: 18.18 / 20**

Honors & Grants

2015 **Silver Medal in Iranian National Olympiad in Informatics (INOI)**, Young Scholar Club
2019 **Granted the Travel and Conference Fund**, Association for Computational Linguistics
2016 **Ranked Top 0.3% in Iran's Universities Entrance Exam**,
2015 **Fellowship**, Iranian National Elites Foundation
2019 **Fellowship**, Association for Computational Linguistics

Publications

M. R. Samsami, M. Bahari, S. Salehkaleybar, A. Alahi. 2021. Causal Imitative Model for Autonomous Driving. Preprint.

F. Hosseini, H. Fooladi, **M. R. Samsami**. 2019. Recognizing arrow of time in the short stories. WiNLP at ACL.

M. R. Samsami, H. Alimadad. 2020. Distributed Deep Reinforcement Learning: An Overview. Preprint.

Research Experience

Ecole polytechnique fédérale de Lausanne (EPFL)

Supervisors: Dr. Saber SalehKaleybar (Sharif) and Dr. Alexandre Alahi (EPFL) *2020 - 2021*

- Research Intern, Paper: Causal Imitative Model for Autonomous Driving

Sharif University of Technology

Supervisor: Dr. Saber SalehKaleybar *2019 - 2021*

- Research Assistant

Shenakht Pajouh

Project Manager: Hosein Fooladi *2018 - 2019*

- Researcher, Paper: Recognizing arrow of time in the short stories

Teaching Experience

2016 - 2019 **Algorithm Design and Programming for Olympiad**, Instructor *Karaj, Iran*
2019 - 2021 **Linear Programming, Information Theory**, Teaching Assistant at Sharif University *Tehran, Iran*

Professional and Work Experience

2021 **Data Scientist**, MetoData
2020-2021 **Scientific Collaborator**, University of Essex
2017-2020 **Researcher and Program Manager**, Shenakht Pajouh

Skills

Machine Learning and Data Analytics: TensorFlow, Keras, PyTorch. Familiar with Scikit-Learn, Spark, Pandas.

Reinforcement Learning Toolkits: Gym, MuJoCo, DeepMind Control Suit, PHYRE, CARLA, RLHive, Stable-Baselines.

Programming Languages: Python, C++, C. Worked with MATLAB, Java, and R.

IDE and Editors: LaTeX, Office, PyCharm, Jupyter, Vim, Code::Blocks, RStudio, Eclipse.

Software Engineering: OOP, Functional Programming, Git.

Selected Projects

Implementation of Multiplicative Compositional Policies, Robot Learning Course Project

Crypto-Trading with Deep Reinforcement Learning, MetoData Company

Distributional Reinforcement Learning, Reinforcement Learning Course Project

Causal Reinforcement Learning, Causal Inference Course Project

An Analysis of Convex Optimization Algorithms, Convex Optimization Course Project

Language Modeling on Gutenberg with TensorFlow Keras, Shenakht Pajouh Company

Open Source Contribution

RLHive, A framework designed to facilitate research in reinforcement learning

Selected Courses

Reinforcement Learning, Robot Learning, Representation Learning, Causal Inference, Convex Optimization, Probabilistic Graphical Models, Information Theory, Game Theory, Distributed Systems, Stochastic Processes, Scaling/Alignment/Emergent Behaviors in Neural Nets

Languages

Farsi: Native

English: **Fluent (TOEFL: 106)**

Arabic: Familiar

French: Familiar

Extracurricular Activities

2020-Pres. **Sharif Causal AI Journal Club**, Member *Sharif Uni.*
2017-2019 **Sharif Cognitive Science Community (Shenasa)**, Founding Member of the Central Council *Sharif Uni.*
2017-2018 **Student's Scientific Association of the Department**, Member of Central Council *Sharif Uni.*
2017 **Sharif Data Science Conference**, Co-Organizer *Sharif Uni.*
2022-Pres. **Social Events**, Organizer *Mila*