Reza Babanezhad Harikandeh

Curriculum vitae

RESEARCH INTEREST

My main research interests are: Stochastic Optimization, Generative Models, Game Optimization, and Reinforcement Learning (RL).

WORK EXPERIENCE

Nov 2019-present

Samsung AI Lab, Montreal, Canada

Research Scientist Stochastic Optimization,

Game Optimization, Causality, RL.

Aug-Nov 2019

Huawei, Montreal, Canada

ML Researcher Compression techniques to com-

press Deep Neural Networks

Sep-Dec 2017

Google Brain, Montreal, Canada

Research Intern in ML group Robust stochas-

tic gradient descent

Jan-Apr 2017

Dwave System, Vancouver, Canada

Research Intern in ML group Understand-

ing and improving generalization in Deep Neural Networks

Jun-Sept 2016

Inria research center, Paris, France

Research Intern (MITACS Globalink Award):

Research Intern under supervision of Francis Bach,

specifically working on stochastic algorithms using monotone operators for saddle point problem

2013-2014

Recon, Vancouver, BC, Canada

MITACS Intern: Enabling Spark as new big

data processing engine for the company

2010-2011

Miad Company, Tehran, Iran

Software Designer, Developer, Documenter

2006-2009

Avaan Company, Tehran, Iran

Software Designer, Developer

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Google Scholar

EDUCATION

Aug 2020 - Jun 2022

MILA

Post-doc

 $2014-2019 \quad \textbf{Machine} \qquad \textbf{Learning}$

group

PHD COMPUTER SCI-

ENCE

Computer Science,

UBC

2011 - 2014 **Software Practice**

Lab

MSC(AND 1ST YEAR OF PHD) COMPUTER SCI-

ENCE

Computer Science,

UBC

2008 - 2011 **Software group**

M.Sc. Software En-

GINEERING

Software Engineering, Sharif University,

Tehran/Iran

2001 - 2006 **Software group**

B.Sc. Software En-

GINEERING

Software Engineering, Sharif University,

Tehran/Iran

PUBLICATIONS

- S. V., A. K., R. B., N. L., Decision-Aware Actor-Critic with Function Approximation and Theoretical Guarantees, DP4ML workshop ICML23.
- B. Z., Y. S., R. B., Fast Online Node Labeling for Very Large Graphs, ICML23.
- J. L., S. V., R. B., M. S., N. L., Target-based Surrogates for Stochastic Optimization, ICML23.
- B. D., S. V., R. B., Towards Noise-adaptive, Problem-adaptive (Accelerated) Stochastic Gradient Descent, ICML, 2022.
- A. J., S. V., R. B., C. S., D. P., Towards Painless Policy Optimization for Constrained MDPs, UAI, 2022.

- B. D., S. V., R. B., M. S., S. L. J., SVRG meets AdaGrad: Painless Variance Reduction, JML, 2022.
- L. L., Y. Z., Z. Y., R. B., Z. W., Infinite-Dimensional Optimization for Zero-Sum Games via Variational Transport, ICML, 2021.
- R. L., B. R., et al., An Analysis of Causal Models Adaptation Speed, AISTAT, 2021.
- V. S., B. R., et al., To Each Optimizer a Norm, To Each Norm its Generalization, NeurIPS workshop on optimization, 2020.
- R.B., S. L. J., Geometry-Aware Universal Mirror-Prox, Arxiv, 2020.
- A. D. A. D. B. R., et al., Reducing the variance in online optimization by transporting past gradients, NeurIPS, 2019.
- D. A., B. E., B. R., Manifold Preserving Adversarial Learning, ArXiv, 2019.
- B., R., et. al., "MASAGA: A Linearly-Convergent Stochastic First-Order Method for Optimization on Manifolds", ECML, 2018.
- L. I., B. R., et.al., Domain Adaptation with Deep Metric Learning, ICML DAVU workshop, 2018.
- L. N., B. R., et. al., Online Variance Reduction, ICLR workshop track, 2018.
- Z. Z., B. R., Potinger, R., A Generic Top-N Recommendation Framework For Tradingoff Accuracy, Novelty, and Coverage, ICDE, 2018.
- K. M. E., B. R., et. al., Faster Stochastic Variational Inference using Proximal-Gradient Methods with General Divergence Functions, UAI, 2016.
- B. R., et.al, Stop wasting my gradient: Practical SVRG, NIPS, 2015.
- S. M., B. R., et. al., Non-uniform stochastic average gradient method for training conditional random fields. AISTAT 2015.
- E. W., B. R., Denormalization Middleware for Database-as-a-Service, SOCA 2013.
- B. R., Y. M., R. R., Process Pattern for Web Engineering, COMPSAC 2010.

SKILLS

PROGRAMMING LANGUAGE Java, Python, Matlab

Tools Apache Spark, Tensor-Flow

LANGUAGE English, Farsi

REFERENCES

- Simon Lacoste-Jullien
- Mark Schmidt
- Francis Bach
- · Nicolas Le-Roux
- Eric Wholfstadtre
- Raman Ramsin