[PDF downloaded]  
[Closing the Gap: Achieving Global Convergence (Last Iterate) of Actor-Critic under Markovian Sampling with Neural Network Parametrization](Closing the Gap Achieving Global.pdf)Mudit Gaur, Vaneet Aggarwal, Amrit Singh Bedi, and Di Wang - arXiv preprint arXiv:2405.01843 (2024) - arxiv.org  
The current state-of-the-art theoretical analysis of Actor-Critic (AC) algorithms significantly lags in addressing the practical aspects of AC implementations. This crucial gap needs …

[PDF downloaded]  
[On the Relevance of Byzantine Robust Optimization Against Data Poisoning](On the Relevance of Byzantine.pdf)Sadegh Farhadkhani, Rachid Guerraoui, Nirupam Gupta, and Rafael Pinot - arXiv preprint arXiv:2405.00491 (2024) - arxiv.org  
The success of machine learning (ML) has been intimately linked with the availability of large amounts of data, typically collected from heterogeneous sources and processed on …

[PDF downloaded]  
[Highly smooth zeroth-order methods for solving optimization problems under the PL condition](Highly smooth zeroth-order methods for.pdf)A. V. Gasnikov, A. V. Lobanov, and F. S. Stonyakin - Computational Mathematics and Mathematical Physics 64, no. 4 (2024): 739-770 - Springer  
In this paper, we study the black box optimization problem under the Polyak–Lojasiewicz (PL) condition, assuming that the objective function is not just smooth, but has higher …

[On Some Works of Boris Teodorovich Polyak on the Convergence of Gradient Methods and Their Development](https://link.springer.com/article/10.1134/S0965542524700076)S. S. Ablaev, A. N. Beznosikov, A. V. Gasnikov, D. M. Dvinskikh, A. V. Lobanov, S. M. Puchinin, and F. S. Stonyakin - Computational Mathematics and Mathematical Physics 64, no. 4 (2024): 635-675 - Springer  
The paper presents a review of the current state of subgradient and accelerated convex optimization methods, including the cases with the presence of noise and access to various …

[PDF downloaded]  
[Taming Nonconvex Stochastic Mirror Descent with General Bregman Divergence](Taming Nonconvex Stochastic Mirror Descent.pdf)Ilyas Fatkhullin, and Niao He - arXiv preprint arXiv:2402.17722 (2024) - arxiv.org  
This paper revisits the convergence of Stochastic Mirror Descent (SMD) in the contemporary nonconvex optimization setting. Existing results for batch-free nonconvex SMD restrict the …

[PDF downloaded]  
[Almost sure convergence rates of stochastic gradient methods under gradient domination](Almost sure convergence rates of.pdf)Simon Weissmann, Sara Klein, Waïss Azizian, and Leif Döring - arXiv preprint arXiv:2405.13592 (2024) - arxiv.org  
Stochastic gradient methods are among the most important algorithms in training machine learning problems. While classical assumptions such as strong convexity allow a simple …

[PDF downloaded]  
[On the Complexity of Finite-Sum Smooth Optimization under the Polyak-{\L} ojasiewicz Condition](On the Complexity of Finite-Sum.pdf)Yunyan Bai, Yuxing Liu, and Luo Luo - arXiv preprint arXiv:2402.02569 (2024) - arxiv.org  
This paper considers the optimization problem of the form $\min\_ {{\bf x}\in {\mathbb R}^ d} f ({\bf x})\triangleq\frac {1}{n}\sum\_ {i= 1}^ n f\_i ({\bf x}) $, where $ f (\cdot) $ satisfies the …

[PDF downloaded]  
[The Order Oracle: a New Concept in The Black Box Optimization Problems](The Order Oracle a New.pdf)Aleksandr Lobanov, Alexander Gasnikov, and Andrei Krasnov - arXiv preprint arXiv:2402.09014 (2024) - arxiv.org  
Frequently, the burgeoning field of black-box optimization encounters challenges due to a limited understanding of the mechanisms of the objective function. In this paper, we provide …

[Brief Announcement: A Case for Byzantine Machine Learning](https://dl.acm.org/doi/abs/10.1145/3662158.3662802)Sadegh Farhadkhani, Rachid Guerraoui, Nirupam Gupta, and Rafael Pinot - In Proceedings of the 43rd ACM Symposium on Principles of Distributed Computing, pp. 131-134. 2024 - dl.acm.org  
The success of machine learning (ML) has been intimately linked with the availability of large amounts of data, typically collected from heterogeneous sources and processed on …