

Ahmet Alacaoglu - Curriculum Vitae

CONTACT INFORMATION	Wisconsin Institute for Discovery University of Wisconsin-Madison 330 N Orchard St Madison, WI 53715, USA	alacaoglu@wisc.edu ahmetalacaoglu@gmail.com Google Scholar ID: -yRi8D4AAAAJ
RESEARCH INTERESTS	Continuous optimization, machine learning, min-max games, reinforcement learning theory	
EXPERIENCE	University of Wisconsin-Madison, WI, USA Wisconsin Institute for Discovery <i>Postdoctoral Research Associate</i> September 2021 - present Advisor: Prof. Stephen J. Wright University of North Carolina at Chapel Hill, NC, USA Department of Statistics and Operations Research <i>Visiting Researcher</i> September 2017 - October 2017 Host: Prof. Quoc Tran-Dinh	
EDUCATION	École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland Ph.D. Computer and Communication Sciences, September 2016 - August 2021 Advisor: Prof. Volkan Cevher Bilkent University, Ankara, Turkey B.Sc. Electrical and Electronics Engineering, August 2012 - June 2016	
UNDER REVIEW	A. Alacaoglu, H. Lyu , “Convergence and Complexity of Stochastic Subgradient Methods with Dependent Data for Nonconvex Optimization”, arXiv: 2203.15797 A. Alacaoglu, V. Cevher, S. J. Wright , “On the Complexity of a Practical Primal-Dual Coordinate Method”, arXiv: 2201.07684	
PUBLICATIONS	A. Alacaoglu, Y. Malitsky . “Stochastic Variance Reduction for Variational Inequality Methods”, <i>Conference on Learning Theory (COLT)</i> , 2022 A. Alacaoglu, L. Viano, N. He, V. Cevher . “A Natural Actor-Critic Framework for Zero-Sum Markov Games”, <i>International Conference on Machine Learning (ICML)</i> , 2022 A. Alacaoglu, O. Fercoq, V. Cevher . “On the convergence of stochastic primal-dual hybrid gradient”, <i>SIAM Journal on Optimization (SIOPT)</i> , 2022 A. Alacaoglu, Y. Malitsky, V. Cevher . “Convergence of adaptive algorithms for constrained weakly convex optimization”, <i>Advances in Neural Information Processing Systems (NeurIPS)</i> , 2021 A. Alacaoglu, Y. Malitsky, V. Cevher . “Forward-reflected-backward method with variance reduction”, <i>Computational Optimization and Applications (COAP)</i> , 2021	

A. Alacaoglu, O. Fercoq, V. Cevher. “Random extrapolation for primal-dual coordinate descent”, *International Conference on Machine Learning (ICML)*, 2020

A. Alacaoglu, Y. Malitsky, P. Mertikopoulos, V. Cevher. “A new regret analysis for Adam-type algorithms”, *International Conference on Machine Learning (ICML)*, 2020

M.-L. Vladarean, **A. Alacaoglu**, Y.-P. Hsieh, V. Cevher. “Conditional gradient methods for stochastically constrained convex minimization”, *International Conference on Machine Learning (ICML)*, 2020

M. F. Sahin, A. Eftekhari, **A. Alacaoglu**, F. Latorre, V. Cevher. “An Inexact Augmented Lagrangian Framework for Nonconvex Optimization with Nonlinear Constraints”, *Advances in Neural Information Processing Systems (NeurIPS)*, 2019

O. Fercoq, **A. Alacaoglu**, I. Necoara, V. Cevher. “Almost surely constrained convex optimization”, *International Conference on Machine Learning (ICML)*, 2019

Q. Tran-Dinh, **A. Alacaoglu**, O. Fercoq, V. Cevher. “An Adaptive Primal-Dual Framework for Nonsmooth Convex Minimization”, *Mathematical Programming Computation*, 2019

A. A. Ozaslan, **A. Alacaoglu**, O. B. Demirel, T. Cukur, E. U. Saritas. “Fully automated gridding reconstruction for non-Cartesian x-space magnetic particle imaging”, *Physics in Medicine & Biology* 64 (16): 165018, 2019

A. Alacaoglu, Q. Tran-Dinh, O. Fercoq, V. Cevher. “Smooth Primal-Dual Coordinate Descent Algorithms for Nonsmooth Convex Optimization”, *Advances in Neural Information Processing Systems (NeurIPS)*, 2017

PROFESSIONAL
SERVICE

- Reviewer: ICML 2020-2022, NeurIPS 2019-2022, ICLR 2020-2022, COLT 2022, SIAM J. Optim. (SIOPT), J. Mach. Learn (JMLR), Trans. Mach. Learn. Res. (TMLR), J. Optim. Theory Appl. (JOTA), IEEE Trans. Automat. Contr., Comput. Optim. Appl., Optim. Methods., EURO J. Comput. Optim.
- Expert reviewer: ICML 2021
- Seminar organizer, IFDS Ideas Forum, UW-Madison, Fall 2021
- Session chair, INFORMS Optimization Society Meeting, SC, USA, 2022
- Session chair, International Conference on Continuous Optimization (ICCOPT), PA, USA, 2022
- Session chair, SIAM Conference on Mathematics of Data Science (MDS), CA, USA, 2022

TEACHING
EXPERIENCE

Tutorial:

- “Adaptive Optimization Methods for Machine Learning and Signal Processing”, with Kfir Levy, Ali Kavis, Volkan Cevher, *EUSIPCO 2020*, Virtual

Teaching assistant for the courses:

- Mathematics of data: from theory to computation (EPFL)
- Theory and methods for reinforcement learning (EPFL)
- Advanced topics in machine learning (EPFL)
- Advanced information, computation, communication II (EPFL)
- Linear algebra and differential equations (Bilkent University)

HONORS AND
AWARDS

- Selected as an outstanding reviewer, NeurIPS 2019, 2021, ICML 2020, 2022, ICLR 2021
- Student Travel Award, NeurIPS, 2017, 2019
- EPFL IC School Fellowship for Doctoral Studies, 2016
- Bilkent University EE Department Academic/Research Excellence Awards, 2016
- Comprehensive scholarship (tuition waiver and monthly stipend) for undergraduate study awarded by Bilkent University, 2012

COMPUTER SKILLS

- Programming: Julia, Python, Cython