

Stochastic Optimization Under Distributional Shifts

ABSTRACT - Learning problems commonly exhibit an interesting feedback mechanism wherein the population data reacts to decision makers' actions. This is the case for example when members of the population respond to a deployed classifier by manipulating their features so as to improve the likelihood of being positively labeled. In this way, the population is manipulating the learning process by distorting the data distribution that the learner can access. In this talk, I will present some recent modelling frameworks and algorithms for dynamic problems of this type, rooted in stochastic optimization and game theory.



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SPEAKER BIO – Dmitriy Drusvyatskiy received his PhD from the Operations Research and Information Engineering Department at Cornell University in 2013, followed by a post-doctoral appointment in the Combinatorics and Optimization Department at Waterloo, 2013-2014. He joined the Mathematics Department at University of Washington as an Assistant Professor in 2014, and promoted to Associate Professor in 2019.

Dmitriy's research broadly focuses on designing and analyzing algorithms for large-scale optimization problems, primarily motivated by applications in data science. Dmitriy has received a number of awards, including the Air Force Office of Scientific Research (AFOSR) Young Investigator Program (YIP) Award, NSF CAREER, INFORMS Optimization Society Young Researcher Prize 2019, and finalist citations for the Tucker Prize 2015 and the Young Researcher Best Paper Prize at ICCOPT 2019. Dmitriy is currently a co-PI of the NSF funded Transdisciplinary Research in Principles of Data Science (TRIPODS) institute at University of Washington.

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