Conference on Learning Theory 2020: Preface

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This was an unprecedented year for the Conference on Learning Theory, as it was for the world. The conference had been planned to take place in Graz, Austria in July 2020, and in early March the review process was humming along as usual. By mid-March, with about a week until the review deadline, everything changed. The world was upended by the COVID-19 pandemic and, for the first time in its over-three-decades history, the conference steering committee was forced to decide that the conference would be held entirely virtually.

Despite the upheaval, the conference program committee managed to do an excellent job and every paper received a careful evaluation. With the help of 89 Senior Program Committee members and over 200 expert reviewers, we selected 120 papers to be accepted and presented at the 33rd Conference on Learning Theory (COLT), out of 388 submitted manuscripts. These proceedings contain those accepted papers. As part of the virtual conference program – held during the same dates as originally planned, during July 9–12, 2020 – authors of all accepted papers were given the opportunity to provide two pre-recorded video presentations: a 15-minute presentation, and a 1-minute spotlight presentation. Authors were also given the opportunity to engage in live (virtual) interactive sessions with other conference participants.

These proceedings also contain 5 open problems, selected by Vitaly Feldman, the Open Problems Chair, who sought help from external expert reviewers when needed.

In addition to the papers and open problems published in these proceedings, the conference program also included three invited talks, by David Blei, Salil Vadhan, and Rebecca Willett. The best paper award went to the paper titled "Proper Learning, Helly Number, and an Optimal SVM Bound" by Nikita Zhivotovskiy, Steve Hanneke, Olivier Bousquet, and Shay Moran. The best student paper award went to the paper titled "Reducibility and Statistical-Computational Gaps from Secret Leakage" by Matthew Brennan and Guy Bresler.

Several individuals worked tirelessly behind the scenes to make the conference program a success, and we are grateful to every one of them. The Local Arrangement Chairs, who made the initial plans to welcome everyone in Graz, were Peter Auer and Robert Legenstein. The Information Officer was Daniel Hsu. The Publications Chair was Suriya Gunasekar. The Sponsorships Chairs were Satyen Kale and Varun Kanade. The Diversity and Inclusion Chairs were Alina Beygelzimer and Sanjoy Dasgupta. The Women in Machine Learning - Theory (WiML-T) Chairs were Ruth Urner and Claire Vernade. Special thanks are due to the Senior Program Committee (whose names appear below) and the Reviewer Committee for completing their responsibilities in a very challenging time, and to everyone who stepped in to make the virtual conference program possible, including in particular Peter Grünwald, Benjamin Guedj, Daniel Hsu, Satyen Kale, and Wouter Koolen.

Jacob Abernethy and Shivani Agarwal
COLT 2020 Program Chairs

Senior Program Committee: Jayadev Acharya (Cornell University), Alekh Agarwal (Microsoft Research), Shipra Agrawal (Columbia University), Pranjal Awasthi (Rutgers University/Google), Peter Bartlett (UC Berkeley), Shai Ben-David (University of Waterloo), Quentin Berthet (Google Brain), Alina Beygelzimer (Yahoo), Jeff Bilmes (University of Washington), Gilles Blanchard (Université Paris-Saclay), Guy Bresler (MIT), Sebastien Bubeck (Microsoft Research), Constantine Caramanis (UT Austin), Nicol Cesa-Bianchi (University of Milan), Kamalika Chaudhuri (UC San Diego), Rachel Cummings (Georgia Tech), Ashok Cutkosky (Google Research), Arnak Dalalyan (ENSAE Paris), Amit Daniely (Hebrew University), Constantinos Daskalakis (MIT), Anindya De (University of Pennsylvania), Ilias Diakonikolas (University of Wisconsin, Madison), Alex Dimakis (UT Austin), Ronen Eldan (Weizmann Institute), Vitaly Feldman (Apple), Dylan Foster (MIT), Rafael Frongillo (CU Boulder), Pierre Gaillard (INRIA), Rong Ge (Duke University), Claudio Gentile (Google Research), Sebastien Gerchinovitz (Universite Toulouse III - Paul Sabatier), Navin Goyal (Microsoft Research India), Peter Grünwald (Centrum Wiskunde & Informatica), Nika Haghtalab (Cornell University), Hamed Hassani (University of Pennsylvania), Elad Hazan (Princeton University), Daniel Hsu (Columbia University), Prateek Jain (Microsoft Research), Nan Jiang (University of Illinois, Urbana-Champaign), Chi Jin (UC Berkeley), Adam Tauman Kalai (Microsoft Research), Satyen Kale (Google), Varun Kanade (University of Oxford), Amin Karbasi (Yale University), Adam Klivans (UT Austin), Aryeh Kontorovich (Ben-Gurion University of the Negev), Wouter M. Koolen (Centrum Wiskunde & Informatica), Tomer Koren (Tel Aviv University/Google), Wojciech Kotlowski (Poznan University of Technology), Akshay Krishnamurthy (University of Massachusetts, Amherst), Kfir Levy (Technion), Roi Livni (Tel Aviv University), Philip M. Long (Google), Gabor Lugosi (Universitat Pompeu Fabra), Haipeng Luo (University of Southern California), Tengyu Ma (Stanford University), Alan Malek (MIT), Raghu Meka (UC Los Angeles), Mehryar Mohri (Google/New York University), Ankur Moitra (MIT), Jamie Morgenstern (Georgia Tech), Praneeth Netrapalli (Microsoft Research), Gergely Neu (Universitat Pompeu Fabra), Vianney Perchet (ENSAE/Criteo AI Lab), Eric Price (UT Austin), Maxim Raginsky (University of Illinois, Urbana-Champaign), Alexander Rakhlin (MIT), Aaditya Ramdas (Carnegie Mellon University), Philippe Rigollet (MIT), Sivan Sabato (Ben-Gurion University of the Negev), Venkatesh Saligrama (Boston University), Anand D. Sarwate (Rutgers University), Robert Schapire (Microsoft Research), Devavrat Shah (MIT), Yaron Singer (Harvard University), Alex Slivkins (Microsoft Research), Adam Smith (Boston University), Suvrit Sra (MIT), Nathan Srebro (Toyota Technical Institute, Chicago), Karthik Sridharan (Cornell University), David Steurer (ETH Zurich), Ananda Theertha Suresh (Google), Vasilis Syrgkanis (Microsoft Research), Csaba Szepesvari (DeepMind/University of Alberta), Ambuj Tewari (University of Michigan), Tim van Erven (Leiden University), Santosh Vempala (Georgia Tech), Aravindan Vijayaraghavan (Northwestern University), Yihong Wu (Yale University).