October 14-18, 2024 Salt Lake City, UT, USA



Advancing Computing as a Science & Profession



CCS '24

Proceedings of the 2024 ACM SIGSAC Conference on Computer and Communications Security

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The Association for Computing Machinery 1601 Broadway, 10th Floor New York, NY 10019-7434

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ISBN: 979-8-4007-0636-3

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Message from the ACM CCS 2024 General Co-Chairs

It is with great enthusiasm that we, on behalf of the Organizing Committee, invite you to join us for the 31st ACM SIGSAC Conference on Computer and Communications Security (CCS), a premier security and privacy conference where researchers, practitioners, and educators come together to present, learn, and debate research, innovation, and trends in the field of Computer and Communications Security and Privacy.

This year, we are proud to introduce our conference theme to be "Inclusion, Mentorship, Community." These three pillars reflect our collective commitment to fostering a vibrant, supportive, and forward-thinking environment within the CCS community. Particularly, we host our inaugural *Doctoral Symposium*, which offers PhD students a unique platform to receive timely, constructive feedback on their dissertation research from leading experts in our community. Additionally, our first-ever *Diversity, Equity, and Inclusion (DEI) Workshop* is designed to cultivate a culture that embraces diversity and champions equity in our field. Moreover, understanding the importance of guidance and support, we have organized panels focusing on *Student Mentoring, Faculty Mentoring*, and *Public Service*. These panels are designed to facilitate mentorship connections, share valuable experiences, and encourage service that extends the impact of our work beyond academia. These new initiatives are also opportunities to strengthen the bonds within our CCS community.

Regarding the main conference, this year's main conference is our *largest* ever, featuring 328 paper presentations that showcase the latest research and developments in our field. We are also honored to have two distinguished keynote speakers: Dr. Dan Boneh and Dr. Gene Tsudik, who will share their invaluable insights and perspectives on pressing topics in security and privacy. Additionally, 18 specialized workshops will take place on the pre-conference and post-conference days, providing platforms for focused discussions and collaborations on numerous specialized topics.

We would like to extend our deepest gratitude to all the authors, program chairs, track chairs, colocated event organizers, program committee members, artifact evaluation committee members, post/demo committee members, and external reviewers, who have dedicated their time and effort to make this conference possible. Your commitment and hard work are the backbone of CCS 2024, and it is through your contributions that we continue to thrive as a community. Also, we would like to thank ACM, SIGSAC, organizing committee members and our sponsors for their support of CCS 2024. This conference would not have been possible without their dedication and commitment.

Welcome to Salt Lake City! We hope that you will find CCS 2024 interesting and thought-provoking, providing you with a valuable opportunity to share ideas with other researchers and practitioners around the world.

Bo Luo

CCS'24 General Co-Chair University of Kansas Xiaojing Liao

CCS'24 General Co-Chair Indiana University Jun Xu

CCS'24 General Co-Chair University of Utah

Welcome from the ACM CCS 2024 Program Co-Chairs

Welcome to the proceedings of the 31st ACM Conference on Computer and Communications Security (CCS). The task of the Program Committee, led by the Program Chairs and the Track Chairs, was to select the papers that would appear in this edition of the conference. Keeping with the tradition, we had two reviewing cycles, with submission deadlines in January and April, each with a roughly 2.5-month review cycle. This year, due to a tighter schedule as the conference was taking place mid October instead of November as in 2023, the submission Cycles A and B had to overlap. Also, as in previous years, due to the record number of papers submitted, and to give to the authors the opportunity to submit their papers elsewhere, some papers were rejected early in the process, as the result of receiving two negative reviews. For the remaining papers, the authors were given the opportunity to submit a rebuttal to address specific concerns of the reviewers. By the end of each cycle, each submitted paper was marked for acceptance, conditional acceptance (shepherding), rejection, or revision. Papers in the last category were allowed to be resubmitted for another round of review, under the assumption that they would be accepted if the requirements set by the reviewers were met satisfactorily. All submissions were reviewed by a Program Committee of over 527 security and privacy experts from around the world, along with many expert sub-reviewers from outside the committee. The Program Co-Chairs were assisted by thirteen Track Chairs: Yuan Tian, Jason Polakis, Aanjhan Ranganathan, Catalin Hritcu, Yinqian Zhang, Melek Onen, Katerina Mitrokotsa, Reza Shokri, Murat Kantarcioglu, Blase Ur, Gianluca Stringhini, Stefanie Roos, and Wouter Lueks, who are recognized experts in their respective subfields. The Track Chairs were also involved in selecting the top reviewers and the distinguished paper awards.

The January cycle received 748 submissions, with 75 papers accepted (possibly with shepherding). An additional 59 papers were chosen for revision, with 57 of those eventually being accepted after the revised version was submitted. Of the papers that were rejected, 362 were rejected early. A total of 1216 papers were submitted to the April cycle, with 122 papers accepted (possibly with shepherding) and 77 papers chosen to be revised. From the latter group, 74 papers were eventually accepted. Of the rejected papers, 631 were rejected early. Altogether, 328 out of 1964 submissions were accepted, for an acceptance rate of 16.7%. The accepted papers cover a wide range of topics in security, including web security, machine learning, network security, formal methods, software security, IoT/CPS security, applied cryptography, privacy and anonymity, security usability and measurement, blockchain, and distributed systems security.

We thank the Track Chairs, PC members, and external reviewers for their contributions to the conference and for their dedication to high-quality reviewing. We are also extremely grateful to the General Chairs, Bo Luo, Xiaojing Liao, and Jun Xu, for organizing the conference, the Proceedings Chairs, Fengwei Zhang and Dongpeng Xu, the Workshop Chairs, Christophe Hauser and Aurore Fass, Poster/Demo chairs, Sara Foresti and Xiaoyan Sun, as well as the many other chairs that helped us the diversity of tasks that are critical for establishing a program of this size. We could not have done all of this without you!

We also thank all the authors for submitting their outstanding research to ACM CCS. We hope you enjoy the conference!

Engin Kirda

CCS'24 Program Co-Chair Northeastern University **David Lie**CCS'24 Program Co-Chair

University of Toronto

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