

Yuval Efron

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Ph.D. Candidate at Columbia University, working primarily on Foundations of Blockchains.

EDUCATION

Ph.D. Candidate, Computer Science

New York, NY | Dec 2021-present

SUPERVISOR: PROF. TONIANN PITASSI, COLUMBIA UNIVERSITY

Ph.D. Candidate, Computer Science

Toronto, ON | Sep 2020-Dec 2021

SUPERVISOR: PROF. TONIANN PITASSI, UNIVERSITY OF TORONTO

M.Sc., Computer Science, Thesis: "New Advances in Distributed Optimization and Distance Computation".

Haifa, IL | May 2018-Aug 2020

SUPERVISOR: PROF. KEREN CENSOR-HILLEL, TECHNION-ISRAEL INSTITUTE OF TECHNOLOGY

Teaching Assistant: Distributed Graph Algorithms, Logic and Set Theory for CS, Fine-grained Complexity

B.Sc., Computer Science, cum laude

Haifa, IL | Sep 2015-May 2018

TECHNION-ISRAEL INSTITUTE OF TECHNOLOGY

AWARDS AND HONORS

- Long plenary talk QIP 2024 (3 papers out of 111)
- PBS foundation grant.

PUBLICATIONS

HOW MUCH RANDOMNESS DO MODERN CONSENSUS PROTOCOLS NEED?

IN SUBMISSION TO FC 2025

with Joseph Bonneau, Benedikt Bunz, Miranda Christ

THE CRYPTOGRAPHY NEEDED FOR SLEEPY CONSENSUS

IN SUBMISSION TO EUROCRYPT 2025

with Joachim Neu, Toniann Pitassi

DISHONEST MAJORITY COIN-FLIPPING REQUIRES DELAY FUNCTIONS

IN SUBMISSION TO EUROCRYPT 2025

with Joseph Bonneau, Benedikt Bunz, Miranda Christ

JUGGERNAUT: EFFICIENT CRYPTO-AGNOSTIC BYZANTINE AGREEMENT

IN SUBMISSION TO EUROCRYPT 2025

with Daniel Collins, Jovan Komatovic

A SIMPLE ALGORITHM FOR DYNAMIC CARPOOLING WITH RECOURSE

SOSA 2025

with Shyamal Patel, Cliff Stein

UNITARY COMPLEXITY AND THE UHLMANN TRANSFORMATION PROBLEM

QIP 2024 LONG PLENARY(3 PAPERS OUT OF 111)

with John Bostanci, Tony Metger, Alexander Poremba, Luowen Qian, Henry Yuen

NEAR OPTIMAL COMMUNICATION AND QUERY COMPLEXITY OF BIPARTITE MATCHING

FOCS 2022

with Joakim Blikstad, Jan van den Brand, Sagnik Mukhopadhyay, Danupon Nanongkai

CUT QUERY ALGORITHMS WITH STAR CONTRACTION

FOCS 2022

with Simon Apers, Pawel Gawrychowski, Troy Lee, Sagnik Mukhopadhyay, Danupon Nanongkai

DISTRIBUTED WEIGHTED MIN-CUT IN NEARLY-OPTIMAL TIME

STOC 2021

with Michal Dory, Sagnik Mukhopadhyay, Danupon Nanongkai

CLASSIFICATION OF DISTRIBUTED BINARY LABELING PROBLEMS

DISC 2020

with Alkida Balliu, Sebastian Brandt, Juho Hirvonen, Yannic Maus, Dennis Olivetti, Jukka Suomela

BEYOND ALICE AND BOB: IMPROVED INAPPROXIMABILITY FOR MAXIMUM INDEPENDENT SET IN CONGEST

PODC 2020

with Ofer Grossman, Seri Khoury

DISTRIBUTED DISTANCE APPROXIMATION

OPODIS 2020

with Bertie Ancona, Keren Censor-Hillel, Mina Dalirrooyfard, Virginia Vassilevska Williams

HARDNESS OF DISTRIBUTED OPTIMIZATION

PODC 2019

with Nir Bachrach, Keren Censor-Hillel, Michal Dory, Dean Leitersdorf, Ami Paz

DOUBLE AND TRIPLE NODE-ERASURE-CORRECTING CODES OVER GRAPHS

ISIT 2019, IEEE TRANS. INF. THEORY 2020

with Eitan Yaakobi, Lev Yohananov