

Stanford

Aviad Rubinstein

Assistant Professor of Computer Science

Bio

ACADEMIC APPOINTMENTS

- Assistant Professor, Computer Science

LINKS

- <https://cs.stanford.edu/~aviad/>: <https://cs.stanford.edu/~aviad/>

Teaching

COURSES

2021-22

- Design and Analysis of Algorithms: CS 161 (Aut)
- Problem-Solving Lab for CS161: CS 161A (Aut)
- Topics in Intractability: Unfulfilled Algorithmic Fantasies: CS 354 (Win)

2020-21

- Design and Analysis of Algorithms: CS 161 (Aut)
- Incentives in Computer Science: CS 269I (Spr)
- Problem-Solving Lab for CS161: CS 161A (Aut)
- Quantum Computing: Open-Source Project Experience: CS 59SI (Spr)

2019-20

- Design and Analysis of Algorithms: CS 161 (Aut)
- Quantum Computing: CS 259Q (Win)

2018-19

- Design and Analysis of Algorithms: CS 161 (Aut)
- Topics in Intractability: Unfulfilled Algorithmic Fantasies: CS 354 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Paul Liu, Noah Shetty

Master's Program Advisor

Callum Burgess, Andrew Conkey, Cem Gokmen, Gil Kornberg, Jacky Lin, Rafael Rafailov, Abraham Ryzhik, Shyamoli Sanghi, Preey Shah

Doctoral Dissertation Co-Advisor (AC)

Kianna Wan

Doctoral (Program)

Joshua Brakensiek, Junyao Zhao, Jack Zhou

Publications

PUBLICATIONS

- **An Optimal Approximation for Submodular Maximization Under a Matroid Constraint in the Adaptive Complexity Model** *OPERATIONS RESEARCH*
Balkanski, E., Rubinstein, A., Singer, Y.
2021
- **Does Preprocessing Help in Fast Sequence Comparisons?**
Goldenberg, E., Rubinstein, A., Saha, B., Makarychev, K., Makarychev, Y., Tulsiani, M., Kamath, G., Chuzhoy, J.
ASSOC COMPUTING MACHINERY.2020: 657–70
- **Smoothed Complexity of 2-player Nash Equilibria**
Boodaghians, S., Brakensiek, J., Hopkins, S. B., Rubinstein, A., IEEE
IEEE.2020: 271-282
- **The Randomized Communication Complexity of Revenue Maximization** *ACM SIGECOM EXCHANGES*
Rubinstein, A., Zhao, J.
2021; 19 (2): 75-83
- **Constant-Factor Approximation of Near-Linear Edit Distance in Near-Linear Time For**
Brakensiek, J., Rubinstein, A., Makarychev, K., Makarychev, Y., Tulsiani, M., Kamath, G., Chuzhoy, J.
ASSOC COMPUTING MACHINERY.2020: 685–98
- **Communication complexity of Nash equilibrium in potential games (extended abstract)**
Babichenko, Y., Rubinstein, A., IEEE
IEEE.2020: 1439-1445
- **Reducing approximate Longest Common Subsequence to approximate Edit Distance**
Rubinstein, A., Song, Z., ACM
ASSOC COMPUTING MACHINERY.2020: 1591–1600
- **Reductions in PPP** *INFORMATION PROCESSING LETTERS*
Ban, F., Jain, K., Papadimitriou, C. H., Psomas, C., Rubinstein, A.
2019; 145: 48–52
- **Approximation Algorithms for LCS and LIS with Truly Improved Running Times**
Rubinstein, A., Seddighin, S., Song, Z., Sun, X., IEEE
IEEE COMPUTER SOC.2019: 1121–45
- **An Optimal Approximation for Submodular Maximization under a Matroid Constraint in the Adaptive Complexity Model**
Balkanski, E., Rubinstein, A., Singer, Y., Charikar, M., Cohen, E.
ASSOC COMPUTING MACHINERY.2019: 66–77
- **Near-Linear Time Insertion-Deletion Codes and $(1+\epsilon)$ -Approximating Edit Distance via Indexing**
Haeupler, B., Rubinstein, A., Shahrabi, A., Charikar, M., Cohen, E.
ASSOC COMPUTING MACHINERY.2019: 697–708
- **Satisfiability and Evolution**
Livnat, A., Papadimitriou, C., Rubinstein, A., Valiant, G., Wan, A., IEEE
IEEE.2014: 524–30