Tomer Ezra, Ph.D.

✉ tomer@cmsa.fas.harvard.edu   🌐 https://tomer-ezra.github.io/

Employment History

2024 – ····   🔖 **Postdoctoral Fellow**, Center of Mathematical Sciences and Applications at Harvard University.

2023 – 2023   🔖 **Postdoctoral Fellow**, Simons Laufer Mathematical Sciences Institute.

2021 – 2023   🔖 **Postdoc**, Sapienza University of Rome, hosted by Prof. Stefano Leonardi.

2020 – 2020   🔖 **Research Intern**, Amazon, Alexa Shopping Science Team.

Education

2022   🔖 **Ph.D., Computer Science, Tel Aviv University** in Algorithmic Game Theory.
Thesis title: *Simple Algorithms for Limited Information Settings*.

2016   🔖 **M.Sc., Computer Science, Tel Aviv University** in Algorithmic Game Theory.
Thesis title: *Pricing Public Goods for Simultaneous and Sequential Sales*.

2010   🔖 **B.Sc., Computer Science, The Open University** *(Summa cum Laude)*.

Awards and Achievements

2023   🔖 **Distinguished Postdoc supported by the Alfred P. Sloan Foundation**, Simons Laufer Mathematical Sciences Institute.

2021   🔖 **The Deutsch Prize**, Tel Aviv University.

2010   🔖 **Bronze medal**, SEEMOUS Olympiad for math.

2009   🔖 **Participation in IOI**, Representing Israel in the International Olympiad in Informatics.

🔖 **Dean's list**, The Open University.

2008   🔖 **Rector's list**, The Open University.

2007   🔖 **Dean's list**, The Open University.

2006   🔖 **Dean's list**, The Open University.

Teaching

2022   🔖 **Algorithm Design**. Sapienza University of Rome, Italy.

2016   🔖 **Programming Languages**. Tel Aviv University, Israel.

2015   🔖 **Complexity**. Tel Aviv University, Israel.

Service

Program Committee:

🔖 ACM Conference of Economics and Computation (EC'21, EC'22, EC'23, EC'24)

🔖 Conference on Web and Internet Economics (WINE'21, WINE'23, WINE'24)

🔖 The Web Conference (WWW'23)

🔖 The International Symposium on Algorithmic Game Theory (SAGT'23, SAGT'24)

Service (continued)

- Frontier of Algorithmic Wisdom (FAW'24)

Journal Reviews:

- ACM Transactions on Economics and Computation (TEAC), Mathematics of Operations Research (MOR), Operations Research (OR), Games and Economic Behavior (GEB), Mathematical Social Sciences (MSS), Theoretical Computer Science (TCS), Journal of Artificial Intelligence Research (JAIR), Information and Computation.

Conference Reviews:

- FOCS, STOC, SODA, EC, WINE, SAGT, ESA, WWW, SOSA, ICALP, APPROX.

Research Publications

Journal Articles

1. M. Babaioff, T. Ezra, and U. Feige, "Fair-share allocations for agents with arbitrary entitlements," *Mathematics of Operations Research*, vol. 0, no. 0, null, 0. 🔗 DOI: 10.1287/moor.2021.0199. eprint: https://doi.org/10.1287/moor.2021.0199.

2. T. Ezra, M. Feldman, N. Gravin, and Z. G. Tang, "Prophet matching with general arrivals," *Math. Oper. Res.*, vol. 47, no. 2, pp. 878–898, 2022. 🔗 DOI: 10.1287/MOOR.2021.1152.

3. T. Ezra, M. Feldman, and O. Friedler, "A general framework for endowment effects in combinatorial markets," *SIGecom Exch.*, vol. 18, no. 2, pp. 38–44, 2020. 🔗 DOI: 10.1145/3440968.3440973.

4. T. Ezra, M. Feldman, T. Roughgarden, and W. Suksompong, "Pricing multi-unit markets," *ACM Trans. Economics and Comput.*, vol. 7, no. 4, 20:1–20:29, 2020. 🔗 DOI: 10.1145/3373715.

Conference Proceedings

1. B. Berger, T. Ezra, M. Feldman, and F. Fusco, "Pandora's problem with deadlines," in *Thirty-Eighth AAAI Conference on Artificial Intelligence, AAAI 2024, Thirty-Sixth Conference on Innovative Applications of Artificial Intelligence, IAAI 2024, Fourteenth Symposium on Educational Advances in Artificial Intelligence, EAAI 2014, February 20-27, 2024, Vancouver, Canada*, M. J. Wooldridge, J. G. Dy, and S. Natarajan, Eds., AAAI Press, 2024, pp. 20 337–20 343. 🔗 DOI: 10.1609/AAAI.V38I18.30015.

2. T. Ezra, M. Feldman, and M. Schlesinger, "On the (In)approximability of Combinatorial Contracts," in *15th Innovations in Theoretical Computer Science Conference (ITCS 2024)*, V. Guruswami, Ed., ser. Leibniz International Proceedings in Informatics (LIPIcs), vol. 287, Dagstuhl, Germany: Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2024, 44:1–44:22, ISBN: 978-3-95977-309-6. 🔗 DOI: 10.4230/LIPIcs.ITCS.2024.44.

3. B. Berger, T. Ezra, M. Feldman, and F. Fusco, "Pandora's problem with combinatorial cost," in *Proceedings of the 24th ACM Conference on Economics and Computation, EC 2023, London, United Kingdom, July 9-12, 2023*, K. Leyton-Brown, J. D. Hartline, and L. Samuelson, Eds., ACM, 2023, pp. 273–292. 🔗 DOI: 10.1145/3580507.3597699.

4. P. Dütting, T. Ezra, M. Feldman, and T. Kesselheim, "Multi-agent contracts," in *Proceedings of the 55th Annual ACM Symposium on Theory of Computing, STOC 2023, Orlando, FL, USA, June 20-23, 2023*, B. Saha and R. A. Servedio, Eds., ACM, 2023, pp. 1311–1324. 🔗 DOI: 10.1145/3564246.3585193.

5. T. Ezra, M. Feldman, N. Gravin, and Z. G. Tang, ""who is next in line?" on the significance of knowing the arrival order in bayesian online settings," in *Proceedings of the 2023 ACM-SIAM Symposium on Discrete Algorithms, SODA 2023, Florence, Italy, January 22-25, 2023*, N. Bansal and V. Nagarajan, Eds., SIAM, 2023, pp. 3759–3776. 🔗 DOI: 10.1137/1.9781611977554.CH145.

[6] T. Ezra and T. Garbuz, "The importance of knowing the arrival order in combinatorial bayesian settings," in *Web and Internet Economics - 19th International Conference, WINE 2023, Shanghai, China, December 4-8, 2023, Proceedings*, J. Garg, M. Klimm, and Y. Kong, Eds., ser. Lecture Notes in Computer Science, vol. 14413, Springer, 2023, pp. 256–271. DOI: 10.1007/978-3-031-48974-7_15.

[7] T. Ezra, S. Leonardi, R. Reiffenhäuser, M. Russo, and A. Tsigonias-Dimitriadis, "Prophet inequalities via the expected competitive ratio," in *Web and Internet Economics - 19th International Conference, WINE 2023, Shanghai, China, December 4-8, 2023, Proceedings*, J. Garg, M. Klimm, and Y. Kong, Eds., ser. Lecture Notes in Computer Science, vol. 14413, Springer, 2023, pp. 272–289. DOI: 10.1007/978-3-031-48974-7_16.

[8] M. Babaioff, T. Ezra, and U. Feige, "On best-of-both-worlds fair-share allocations," in *Web and Internet Economics - 18th International Conference, WINE 2022, Troy, NY, USA, December 12-15, 2022, Proceedings*, K. A. Hansen, T. X. Liu, and A. Malekian, Eds., ser. Lecture Notes in Computer Science, vol. 13778, Springer, 2022, pp. 237–255. DOI: 10.1007/978-3-031-22832-2_14.

[9] T. Ezra, M. Feldman, N. Gravin, and Z. G. Tang, "General graphs are easier than bipartite graphs: Tight bounds for secretary matching," in *EC '22: The 23rd ACM Conference on Economics and Computation, Boulder, CO, USA, July 11 - 15, 2022*, D. M. Pennock, I. Segal, and S. Seuken, Eds., ACM, 2022, pp. 1148–1177. DOI: 10.1145/3490486.3538290.

[10] M. Babaioff, T. Ezra, and U. Feige, "Fair and truthful mechanisms for dichotomous valuations," in *Thirty-Fifth AAAI Conference on Artificial Intelligence, AAAI 2021, Thirty-Third Conference on Innovative Applications of Artificial Intelligence, IAAI 2021, The Eleventh Symposium on Educational Advances in Artificial Intelligence, EAAI 2021, Virtual Event, February 2-9, 2021*, AAAI Press, 2021, pp. 5119–5126. DOI: 10.1609/AAAI.V35I6.16647.

[11] M. Babaioff, T. Ezra, and U. Feige, "Fair-share allocations for agents with arbitrary entitlements," in *EC '21: The 22nd ACM Conference on Economics and Computation, Budapest, Hungary, July 18-23, 2021*, P. Biró, S. Chawla, and F. Echenique, Eds., ACM, 2021, p. 127. DOI: 10.1145/3465456.3467559.

[12] P. Dütting, T. Ezra, M. Feldman, and T. Kesselheim, "Combinatorial contracts," in *62nd IEEE Annual Symposium on Foundations of Computer Science, FOCS 2021, Denver, CO, USA, February 7-10, 2022*, IEEE, 2021, pp. 815–826. DOI: 10.1109/FOCS52979.2021.00084.

[13] T. Ezra, M. Feldman, and R. Kupfer, "On a competitive secretary problem with deferred selections," in *Proceedings of the Thirtieth International Joint Conference on Artificial Intelligence, IJCAI 2021, Virtual Event / Montreal, Canada, 19-27 August 2021*, Z. Zhou, Ed., ijcai.org, 2021, pp. 175–181. DOI: 10.24963/IJCAI.2021/25.

[14] T. Ezra, M. Feldman, and R. Kupfer, "Prophet inequality with competing agents," in *Algorithmic Game Theory - 14th International Symposium, SAGT 2021, Aarhus, Denmark, September 21-24, 2021, Proceedings*, I. Caragiannis and K. A. Hansen, Eds., ser. Lecture Notes in Computer Science, vol. 12885, Springer, 2021, pp. 112–123. DOI: 10.1007/978-3-030-85947-3_8.

[15] T. Ezra, M. Feldman, and O. Friedler, "A general framework for endowment effects in combinatorial markets," in *EC '20: The 21st ACM Conference on Economics and Computation, Virtual Event, Hungary, July 13-17, 2020*, P. Biró, J. D. Hartline, M. Ostrovsky, and A. D. Procaccia, Eds., ACM, 2020, pp. 499–500. DOI: 10.1145/3391403.3399516.

[16] T. Ezra, M. Feldman, N. Gravin, and Z. G. Tang, "Online stochastic max-weight matching: Prophet inequality for vertex and edge arrival models," in *EC '20: The 21st ACM Conference on Economics and Computation, Virtual Event, Hungary, July 13-17, 2020*, P. Biró, J. D. Hartline, M. Ostrovsky, and A. D. Procaccia, Eds., ACM, 2020, pp. 769–787. DOI: 10.1145/3391403.3399513.

[17] T. Ezra, M. Feldman, E. Neyman, I. Talgam-Cohen, and S. M. Weinberg, "Settling the communication complexity of combinatorial auctions with two subadditive buyers," in *60th IEEE Annual Symposium on Foundations of Computer Science, FOCS 2019, Baltimore, Maryland, USA, November 9-12, 2019*, D. Zuckerman, Ed., IEEE Computer Society, 2019, pp. 249–272. DOI: 10.1109/FOCS.2019.00025.

[18] T. Ezra, M. Feldman, and I. Nehama, "Prophets and secretaries with overbooking," in *Proceedings of the 2018 ACM Conference on Economics and Computation, Ithaca, NY, USA, June 18-22, 2018*, É. Tardos, E. Elkind, and R. Vohra, Eds., ACM, 2018, pp. 319–320. DOI: 10.1145/3219166.3219211.

[19] T. Ezra, M. Feldman, T. Roughgarden, and W. Suksompong, "Pricing multi-unit markets," in *Web and Internet Economics - 14th International Conference, WINE 2018, Oxford, UK, December 15-17, 2018, Proceedings*, G. Christodoulou and T. Harks, Eds., ser. Lecture Notes in Computer Science, vol. 11316, Springer, 2018, pp. 140–153. DOI: 10.1007/978-3-030-04612-5_10.

[20] A. Eden, T. Ezra, and M. Feldman, "Pricing social goods," in *25th Annual European Symposium on Algorithms, ESA 2017, September 4-6, 2017, Vienna, Austria*, K. Pruhs and C. Sohler, Eds., ser. LIPIcs, vol. 87, Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2017, 35:1–35:14. DOI: 10.4230/LIPICS.ESA.2017.35.

[21] A. Eden, T. Ezra, and M. Feldman, "Pricing social goods," in *Proceedings of the 12th workshop on the Economics of Networks, Systems and Computation, NetEcon@EC 2017, Cambridge, MA, USA, June 26-30, 2017*, V. Conitzer and R. Guérin, Eds., ACM, 2017, 10:1. DOI: 10.1145/3106723.3106733.

Pre-prints

[1] J. Brustle, J. Correa, P. Dütting, T. Ezra, M. Feldman, and V. Verdugo, "The competition complexity of prophet inequalities," 2024. arXiv: 2402.11084.

[2] P. Duetting, T. Ezra, M. Feldman, and T. Kesselheim, "Multi-agent combinatorial contracts," 2024.

[3] T. Ezra, M. Feldman, and M. Schlesinger, "Sequential Contracts," 2024. arXiv: 2403.09545.

[4] T. Ezra, M. Feldman, and Z. G. Tang, "Choosing behind the veil: Tight bounds for identity-blind online algorithms," 2024. arXiv: 2402.17160.

[5] T. Ezra, S. Leonardi, M. Pawłowski, M. Russo, and S. W. Umboh, "Universal optimization for non-clairvoyant subadditive joint replenishment," 2024.

[6] T. Ezra, S. Leonardi, and M. Russo, "Contracts with inspections," 2024. arXiv: 2402.16553.

[7] T. Ezra, D. Schoepflin, and A. Shaulker, "Optimal mechanisms for consumer surplus maximization," 2024. arXiv: 2402.16972.

[8] G. Birmpas, T. Ezra, S. Leonardi, and M. Russo, "Fair division with interdependent values," 2023. DOI: 10.48550/ARXIV.2305.14096. arXiv: 2305.14096.