

# Stanford

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## Ellen Vitercik

Assistant Professor of Management Sciences and Engineering and of  
Computer Science

Management Science and Engineering

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### Bio

#### ACADEMIC APPOINTMENTS

- Assistant Professor, Management Science and Engineering
- Assistant Professor, Computer Science

#### LINKS

- <https://vitercik.github.io/>: <https://vitercik.github.io/>

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### Teaching

#### COURSES

##### 2025-26

- AI for Algorithmic Reasoning and Optimization: CS 331X, MS&E 331 (Aut)
- Design and Analysis of Algorithms: CS 161 (Win)
- Introduction to Probability: MS&E 120 (Aut)

##### 2024-25

- Beyond Worst-Case Analysis: CS 264, MS&E 215 (Spr)
- Introduction to Probability: MS&E 120 (Aut)

##### 2023-24

- Introduction to Probability: MS&E 120 (Aut)
- Machine Learning for Discrete Optimization: CS 225, MS&E 236 (Spr)

##### 2022-23

- Introduction to Probability: MS&E 120 (Aut)
- Machine Learning for Algorithm Design: CS 331, MS&E 331 (Spr)

#### STANFORD ADVISEES

##### Doctoral Dissertation Reader (AC)

Samuel Akinwande, Shaun Datta, Zach Robertson

##### Postdoctoral Faculty Sponsor

Nico Christianson, Connor Lawless, Xizhi Tan

#### Doctoral Dissertation Advisor (AC)

Yingxi Li, Anders Wikum

#### Master's Program Advisor

Kieran Barrett, Nikita Bhardwaj, Megha Bindiganavale, Pranshu Chaturvedi, David Chen, Ian Chen, Kevin Chen, Sohan Chunduru, Ethan Harianto, Jason Hu, Connor Huang Marsh, Aliyan Ishfaq, Viraj Jayam, Dilnaz Kamalova, Shreyas Kar, Chengnan Li, Wanning Lu, Auddithio Nag, Deonna Owens, Kun Peng, Ron Polonsky, Ryan Tan, Claire Tang, Matthew Torre, Artemis Veizi

#### Doctoral Dissertation Co-Advisor (AC)

Mika Jain, Ishani Karmarkar, Nikil Selvam

#### Undergraduate Major Advisor

Ion Martinis

#### Doctoral (Program)

Yu He, Senem Isik

## Publications

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### PUBLICATIONS

- **LLMs for Cold-Start Cutting Plane Separator Configuration**

Lawless, C., Li, Y., Wikum, A., Udell, M., Vitercik, E.  
edited by Tack, G.  
SPRINGER INTERNATIONAL PUBLISHING AG.2025: 51-69

- **New Sequence-Independent Lifting Techniques for Cover Inequalities and When They Induce Facets**

Prasad, S., Vitercik, E., Balcan, M., Sandholm, T.  
edited by Kwok, J.  
IJCAI-INT JOINT CONF ARTIF INTELL.2025: 2675-2683

- **How Much Data Is Sufficient to Learn High-Performing Algorithms?** *JOURNAL OF THE ACM*

Balcan, M., Deblasio, D., Dick, T., Kingsford, C., Sandholm, T., Vitercik, E.  
2024; 71 (5)

- **Leveraging Reviews: Learning to Price with Buyer and Seller Uncertainty** *ACM SIGECOM EXCHANGES*

Guo, W., Haghtalab, N., Kandasamy, K., Vitercik, E.  
2024; 22 (1): 74-82

- **Learning to Branch: Generalization Guarantees and Limits of Data-Independent Discretization** *JOURNAL OF THE ACM*

Balcan, M., Dick, T., Sandholm, T., Vitercik, E.  
2024; 71 (2)

- **Generalization Guarantees for Multi-Item Profit Maximization: Pricing, Auctions, and Randomized Mechanisms** *OPERATIONS RESEARCH*

Balcan, M., Sandholm, T., Vitercik, E.  
2023

- **No-Regret Learning in Partially-Informed Auctions**

Guo, W., Jordan, M. I., Vitercik, E., Chaudhuri, K., Jegelka, S., Song, L., Szepesvari, C., Niu, G., Sabato, S.  
JMLR-JOURNAL MACHINE LEARNING RESEARCH.2022