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Congratulations to Shuvomoy Das Gupta on winning the 2024 ICS Student Paper Award, as well as to the runner-ups Jie Wang and Jiachang Liu

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[Thiago Serra](#)

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Dear colleagues,

The winner of the 2024 ICS Student Paper Award is Shuvomoy Das Gupta (MIT). You can find below the award committee citation about the paper by Das Gupta and co-authors:

**Winner:** "Branch-and-Bound Performance Estimation Programming: A Unified Methodology for Constructing Optimal Optimization Methods" by Shuvomoy Das Gupta, Bart P.G. Van Parys, and Ernest K. Ryu

The authors propose a methodology to design first-order methods for convex and nonconvex optimization problems, which provides an optimality guarantee in the sense that the resulting first-order method is provably the fastest first-order method for the problem at hand. Moreover, the proposed design mechanism is orders of magnitude faster than previous existing methods. The paper is clearly written, the technical content is thoroughly and elegantly explained, and the computational results are compelling and showcase the potential groundbreaking impact of the proposed approach. The committee was very impressed by this work and the decision to award it the first prize was unanimous.

The award committee also identified two runner-ups for the Award: Jie Wang (Georgia Tech) and Jiachang Liu (Duke University). You can find below the citation for each of their papers:

**Runner-up:** "Variable Selection for Kernel Two-Sample Tests" by Jie Wang, Santanu S. Dey, and Yao Xie

The paper considers a variable selection problem for two-sample tests and proposes mixed-integer programming formulations as well as approximation algorithms with performance guarantees. The authors masterfully present their contributions both from the optimization and statistical fields and report impressive computational results.

**Runner-up:** "OKRidge: Scalable Optimal k-Sparse Ridge Regression" by Jiachang Liu, Chudi Zhong, Sam Rosen, and Cynthia Rudin

The authors study a challenging quadratic optimization problem with indicators that has multiple applications in statistical learning. The authors propose a very creative fast lower bounding procedure based on a reformulation of the original problem as a saddle point optimization problem. The computational results show impressive performance for the propose method when compared to existing approaches.

Finally, I would like to thank the award committee for their work to identify these outstanding papers from a pool with so many other great pieces of scholarship. This committee was chaired by Leonardo Lozano (University of Cincinnati), and also included Beste Basciftci (University of Iowa), Austin Buchanan (Oklahoma State University), and Hamed Rahimian (Clemson University).

Please join me at the ICS business meeting during the INFORMS 2024 Annual Meeting in Seattle on Monday, October 21, to recognize the work done by our colleagues as part of their PhD and to thank the award committee.

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 Thiago Serra  
 Assistant Professor of Business Analytics, University of Iowa  
 INFORMS Computing Society Chair (2024-2025)  
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The Institute for Operations Research  
and the Management Sciences

5521 Research Park Drive, Suite 200  
Catonsville, MD 21228 USA

phone 1 443-757-3500

phone 2 800-4INFORMS (800-446-3676)

fax 443-757-3515

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