

Dear Professor He,

I am writing to apply for the postdoctoral position in the Optimization & Decision Intelligence Group at ETH Zurich. I am a PhD candidate in Computer Science and Engineering at New York University, expecting to graduate in May 2025. My research at the intersection of theoretical computer science, optimization, and machine learning aligns strongly with your group's focus on algorithmic foundations for principled and trustworthy decision intelligence.

My work centers on developing algorithms with theoretical guarantees for reliable decision-making in complex social settings. I've contributed to trustworthy AI through algorithms like Leverage SHAP and Kernel Banzhaf, which provide rigorous foundations for interpretability. These align with your group's emphasis on principled decision intelligence. My research on resource allocation, using techniques from discrete optimization and restless multi-armed bandits, connects directly with your interests in operations management and mechanism design.

I employ methods in randomized linear algebra, linear programming, and optimization—areas central to your group's theoretical foundations. I've applied these techniques to interdisciplinary applications, from urban planning to nonprofit program evaluation, demonstrating their practical impact in operations management settings. Through collaborations across nine institutions, I've published in leading venues including NeurIPS, ESA, and AAAI.

I am excited about the prospect of joining the ODI Group, where I can contribute to advancing the theoretical foundations of optimization and decision intelligence while pursuing impactful interdisciplinary applications. I believe my background in both algorithmic theory and practical implementations would complement your group's mission of developing principled and scalable decision-making systems.

Sincerely,

*R. Teal Witter*