

Liangyu (Andrew) Ding

CONTACT INFORMATION	2001 Longxiang Avenue Longgang District Shenzhen, 518172, China	E-mail: liangyuding@link.cuhk.edu.cn Homepage: tryhardorac.github.io Google: ...
EDUCATION	The Chinese University of Hong Kong, Shenzhen , Shenzhen, China Sep 2022 - present B.S. Data Science and Big Data Technology <ul style="list-style-type: none">Selected Core Courses: Advanced Convex Optimization (Ph.D level), Numerical Methods, Deep Learning, C/C++ Programming, Data Structures, PDEs, Stochastic Process, Statistical Inference, Statistical Modeling in Financial Markets	
PUBLICATIONS AND PREPRINTS	[1] Liangyu Ding* , Chenghan Wu*, Guokai Li, Zizhuo Wang. <i>Learning to Price Bundles: A GCN Approach for Mixed Bundling</i> . Under review, 2025.	
RESEARCH	Learning to Price Bundles: A GCN Approach for Mixed Bundling , School of Data Science, CUHK(SZ) Undergraduate researcher, <i>advised by Prof. Zizhuo Wang</i> <ul style="list-style-type: none">We Develop a GCN-based framework to solve the intractable bundle pricing problem by learning to identify high-quality candidate bundles. Using a GCN trained on instances with 5 products, our methods consistently achieve near-optimal solutions (better than 97%) with only a fraction of computational time for problems of small to medium size.Our approach also achieves superior solutions for large size of problems (with 15-25 products) compared with other heuristic methods.Our approach presents the first scalable approach for providing an efficient solution to the bundle pricing problem under the non-additive setting. On Convergence of Restarted GMRES Method , School of Data Science, CUHK(SZ) Undergraduate researcher, <i>advised by Prof. Yin Zhang</i> <ul style="list-style-type: none">Research in progressDeveloping an algorithm to avoid the stagnation of restarted GMRES method when solving large asymmetric linear systems.	
INDUSTRY EXPERIENCE	SOOCHOW Securities , Shanghai, China Quantitative Research Intern	May 2024 - Sep 2024 <ul style="list-style-type: none">Developed an enhanced CSI 300 Index fund selection system, generating trading signals by using a composite of a 2-month Momentum factor and Tracking Deviation Excess Return, and selecting funds using LightGBM for return prediction, achieving an annualized return of 8.92%.
COURSE PROJECT	Image Deblurring Ranked 1 st out of 101 students in the Kaggle Competition for CUHK(SZ) <i>Numerical Methods</i> (DDA3005 Course Project) <ul style="list-style-type: none">Developed and implemented multiple image deblurring algorithms to improve numerical stability and deblurring quality, addressing challenges posed by singular matrices. Solving Lasso via ADMM and Proximal-Type Algorithms CUHK(SZ) <i>Advanced Convex Optimization</i> Final Project (DDA6110 Course Project) <ul style="list-style-type: none">An implementation of ADMM, Proximal Gradient Method and Fast Iterative Shrinkage-Thresholding (FISTA) to solve LASSO problems. Solving Semidefinite Programs: Primal-Dual Interior-Point Method CUHK(SZ) <i>Advanced Convex Optimization</i> Project (DDA6110 Course Project)	

- An implementation of predictor-corrector primal-dual interior-point method in Zhang, (1998) to solve standard form SDP.

Computing Wasserstein Barycenter via Linear Programming

CUHK(SZ) *Optimization in DS and ML* Final Project (DDA4300 Course Project)

- An implementation of predictor-corrector interior point method with the single low-rank regularization method in Ge et al. (2019) for the Pre-specified Support Barycenter Problem, MAAIPM in Ge et al. (2019) and Algorithm 3 in Cuturi and Doucet, (2014) for the Free Support Problem.

HONORS AND AWARDS	Dean's List, The Chinese University of Hong Kong, Shenzhen	2023-2025
	Undergraduate Research Award, The Chinese University of Hong Kong, Shenzhen	2025

SKILLS	Languages: English (Fluent, TOEFL 103, GRE 332), Mandarin (Native)
	Computer Languages: Python, R, Matlab, C++, Gurobi, COPT, L ^A T _E X

REFERENCES	Dr. Zizhuo Wang , Professor, School of Data Science, The Chinese University of Hong Kong, Shenzhen, +86-755-84273393, wangzizhuo@cuhk.edu.cn
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