Jimyeong Kim

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Research Interests

Accelerated methods in Optimization, Decentralized Optimization, Machine Learning

Employment

Mar. 2024 –   Research Fellow, Stochastic Analysis and Application Research Center at KAIST, Daejeon, Republic of Korea (Mentor: Donghwan Kim)

Education

Feb. 2024   Ph.D. in Mathematics, Sungkyunkwan University, Suwon, Republic of Korea
Thesis title: *Convergence Results for the Decentralized Gradient Descent and the Gradient-push with Event-triggered Communication* (Advisor: Woocheol Choi)

Aug. 2018   B.S in Mathematics, Sungkyunkwan University, Suwon, Republic of Korea

Publications

Preprints

2023   -On the convergence analysis of the decentralized projected gradient descent, arXiv:2303.08412, submitted to SIAM J. Optim under revision, with Woocheol Choi

2022   -On the convergence of decentralized gradient descent with diminishing stepsize, revisited, arXiv:2203.09079, submitted, with Woocheol Choi

Journal Papers

2024   -An Adaptive Dual-level Reinforcement Learning Approach for Optimal Trade Execution, Expert Systems with Applications, Vol 252 , with Soohan Kim, Hong Kee Sul, Youngjoon Hong

    -Quantum revivals and fractality for the Schrödinger equation, Rep. Math. Phys. Vol 93 (2), 129-143, with Gunwoo Cho, Seongyeon Kim, Yehyun Kwon, Ihyeok Seo

2023   -Gradient-push algorithm for distributed optimization with event-triggered communications, IEEE Access, vol 11, pp. 517-534, with Woocheol Choi

2022   -On the radius of spatial analyticity for the Klein-Gordon-Schrö dinger system, J. Differential Equations. 321, pp. 449-474

2021   -Lower bounds on the radius of spatial analyticity for the Kawahara equation, Anal. Math. Phys. 11 (1) 28, with Jaeseop Ahn, Ihyeok Seo

2020   -On the radius of spatial analyticity for defocusing nonlinear Schrödinger equations, Discrete Contin. Dyn. Syst. 40 (1), pp. 423-439, with Jaeseop Ahn, Ihyeok Seo

Conference Papers

Research Projects

2022   Optimal Trade Execution for VWAP Trading Based on Deep Learning Strategy, Funded by SK C&C and KB Securities

Talks

May. 2024	KSIAM Spring Conference, Global Plaza, Kyungpook National University, Daegu, Republic of Korea
Jan. 2024	East Asian Core Doctoral Forum on Mathematics 2024, Fudan University, Shanghai, China
Aug. 2023	10th International Congress on Industrial and Applied Mathematics, Waseda University, Tokyo, Japan
Nov. 2022	KSIAM 2022 Annual Meeting, Jeju SONO Calm, Jeju, Republic of Korea
Aug. 2019	7th East Asian Conference in Harmonic Analysis and Applications, Chung-Ang University, Seoul, Republic of Korea

Programming Skills

Python, Matlab

Honors and Awards

2024	Du-Myeong Fellowship, Miwon Commercial Co., Ltd. and Department of Mathematical Sciences, KAIST
2023	BK21 Focused Research Scholarship, Sungkyunkwan University
2022	BK21 Innovative Research Scholarship, Sungkyunkwan University
	BK21 Encouragement Scholarship, Sungkyunkwan University
2021	BK21 Focused Research Scholarship, Sungkyunkwan University
2015	A bronze prize, Korean College Students Mathematical Competition, Korea Math Society