Hanse Kim

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Education

Gwangju Institute of Science and Technology Spring 2019 - Current
BSc, Physics and Photonic Sciences Major, Mathematics Minor *Gwangju, South Korea*
- TGPA : 3.69/4.0, Major GPA : 3.83/4.0 (24/06/02)
- Total Percentage : 96.5

University of California, Berkeley Summer 2023
Summer Semester via Study Abroad Program *Berkeley, US*

University of California, Berkeley Spring 2024
Exchange Program via Study Abroad Program *Berkeley, US*

Research Experience

Holographic Correlation Functions March 2023 - December 2023
- Calculate holographic correlation functions using AdS/CFT with Mathematica
- Supervised by Prof. Chanyong Park

First-last Passage Correspondences September 2023 – December 2023
- Investigate first-last passage in diffusion problems
- Parallel programming and GPU acceleration with PyTorch
- Supervised by Prof. Chiok Hwang

Teaching Experience

Calculus TA Spring 2023

Complex Analysis TA Autumn 2023

Publications (Published)

Kim, Hanse, Jitendra Pal, and Chanyong Park. "Holographic description for correlation functions." Physical Review D 109.12 (2024): 126019.

Publications (Submitted)

Park, Chanyong, **Hanse Kim**, and Kyungchan Cho. "Time evolution of two-point function in expanding universes." arXiv preprint arXiv:2405.15168 (2024).

Relevant Coursework

Physics
- Advanced Mechanics, Advanced Quantum Physics (QFT I)

Mathematics and Computer Science
- Introduction to Differential Topology, von Neumann Algebras, Schrödinger Operators
- Machine Learning and Deep Learning

Functional Analysis Directed Reading March 2023 - June 2023
- Monthly presentations based on Brezis - Functional Analysis
- Supervised by Prof. Jaegil Kim

Quantum Field Theory II Audit January 2024 - May 2024
- Paper reading presentation on Renormalisation and the Batalin-Vilkovisky formalism

GIST Summer Internship July 2024
- ML construction of holographic geometry; replication of papers 1, 2, 3, 4
- ML construction of MOND interpolating function
- Supervised by Prof. Keun-Yeong Kim

Specialized Skills

Programming Languages: Python (pandas, PyTorch), Mathematica
General Software: Latex (Bibtex), Github
English Proficiency: TOEFL 116/120, TOEIC 990/990

Other Interests

Orchestra: GIST Orchestra Clarinet (2019-2024), Organiser (2023)