

Yucheng Fu

fyc0130@connect.hku.hk — Homepage — Google Scholar

Education

The University of Hong Kong (HKU)

Sep 2023 – May 2027 (Expected)

Bachelor of Engineering, Major in Computer Science, Second Major in Mathematics

GPA: 3.90/4.3

Core Courses: Algorithms Design and Analysis, Discrete Mathematics, Probability Theory, Graph Theory.

Publications

- Arnab Bhattacharyya, Graham Cormode, **Yucheng Fu**, and Kuldeep S. Meel. **Total Variation Distance Estimation through Domain Reduction**. *Submitted*. [arXiv]
- Weiming Feng, **Yucheng Fu**, and Heng Guo. **Approximating Two-Terminal Network Reliability**. *Manuscript*. [arXiv]
- **Yucheng Fu**. **On Deterministically Computing Total Variation Distance via Zonotope Compression**. *SODA 2027*. [arXiv]
- Weiming Feng, **Yucheng Fu**, Minji Yang, and Anqi Zhang. **On Computing Total Variation Distance Between Mixtures of Product Distributions**. *RANDOM 2026*. [arXiv]
- Weiming Feng and **Yucheng Fu**. **On Approximating the f -Divergence Between Two Ising Models**. *ITCS 2026*. [arXiv]

Research Experience

- **HKU CDS Summer Research Internship** Summer 2026
Supervised by Professor Zhiyi Huang, The University of Hong Kong.
 - Developed an online learning algorithm that simultaneously achieves calibration and calibrating.
- **Capstone in Mathematics** Sep 2025 – May 2026
Supervised by Professor Wenan Zang, The University of Hong Kong.
 - Implemented classic algorithms, such as 1.5 approximation algorithms, in travelling salesman problem (TSP).
 - Studied the best known $1.5 - \epsilon$ approximation algorithm and the 123/122 inapproximable result.
- **HKU CDS Summer Research Internship** Summer 2025
Supervised by Professor Weiming Feng, The University of Hong Kong.
 - Studied approximation algorithms and computational hardness for f -divergences between Ising models (ITCS 2026).
 - Developed algorithms for the total variation distance between mixtures of product distributions (RANDOM 2026).

Awards

- HKU Dean's Honor List (2023–2024 and 2024–2025)
- Rosita King Ho Scholarship

Skills and Others

- **Programming:** Python, C/C++, Java, SQL
- **Mathematics:** Discrete Mathematics, Graph Theory, Linear Algebra, Probability Theory, Game Theory
- **Tools:** LaTeX, Git, Linux
- **Languages:** English, Mandarin (Native).