

SHAO-HENG KO

shaoheng.ko@duke.edu

RESEARCH INTERESTS

Computing Education, Post-secondary Help-seeking, Non-programming-based Computer Science Education

EDUCATION

Duke University

2020 - 2026 (Estimated)

- Ph.D. program, Computer Science, advisor: Kristin Stephens-Martinez
- Certificate in College Teaching program

National Taiwan University

2011 - 2017

- M.S., Graduate Institute of Electrical Engineering, advisor: Ho-Lin Chen
- B.S., Electrical Engineering

EXPERIENCE

Full-time Research Staff, Inst. Information Science, Academia Sinica

2017 - 2020

- Research area: approximation algorithms and social network

Massive Open Online Courses Explorer, Lab. Teaching Innovation, NTU

2015 - 2017

- Manufactured NTU MOOCs on Coursera and produced mini-MOOC prototypes
- Wrote column pieces to promote online learning
- Co-organized and paneled the “Why MOOCs” workshop

PUBLICATIONS - CONFERENCE PROCEEDINGS (FULL RESEARCH PAPERS)

6. S.-H. Ko, K. Stephens-Martinez. *The trees in the forest: characterizing computing students’ individual help-seeking approaches*. (To appear in) ACM Conference on International Computing Education Research (ICER) 2024.
5. S.-H. Ko, K. Stephens-Martinez. *What Drives Students to Office Hours: Individual Differences and Similarities*. ACM Technical Symposium on Computer Science Education (SIGCSE TS) 2023.
4. S.-H. Ko*, E. Taylor*, P. K. Agarwal, K. Munagala. *All Politics is Local: Redistricting via Local Fairness*. Conference on Neural Information Processing Systems (NeurIPS) 2022. *Equal contribution
3. S.-H. Ko, K. Munagala. *Optimal Price Discrimination for Randomized Mechanisms*. ACM Conference on Economics and Computation (EC) 2022.
2. P. K. Agarwal, S.-H. Ko, E. Taylor, K. Munagala. *Locally Fair Partitioning*. AAAI Conference on Artificial Intelligence 2022.
1. S.-H. Ko, Y.-C. Lin, H.-C. Lai, W.-C. Lee, and D.-N. Yang. *On VR Spatial Query for Dual Entangled Worlds*. ACM Conference on Information and Knowledge Management (CIKM) 2019.

PUBLICATIONS - JOURNAL ARTICLES

3. S.-H. Ko, K. Munagala. *Optimal Price Discrimination for Randomized Mechanisms*. ACM Transactions on Economics and Computation.
2. C.-Y. Shen*, S.-H. Ko*, G.-S. Lee, D.-N. Yang, and W.-C. Lee. *Density Personalized Group Query*. International Conference on Very Large Data Bases (VLDB) 2023.

1. S.-H. Ko, H.-C. Lai, H.-H. Shuai, D.-N. Yang, W.-C. Lee, and P. S. Yu. *Optimizing Item and Subgroup Configurations for Social-Aware VR Shopping*. International Conference on Very Large Data Bases (VLDB) 2020.

PUBLICATIONS - OTHER

2. S. El Otmani, J. Jiang, S.-H. Ko, and K. Stephens-Martinez. *The Relationships Between Modality, Peer Instruction Discussion, and Class Sentiment in Hybrid Courses*. ACM Technical Symposium on Computer Science Education (SIGCSE TS) 2024. (Poster)
1. S.-H. Ko. *Characterizing Computing Students' Academic Help-seeking Behavior*. ACM Conference on International Computing Education Research (ICER) 2023. (Doctoral Consortium)

AWARDS AND HONORS

Bass Instructor of Record Fellowship	<i>The Graduate School, Duke, AY 2023-24</i>
Outstanding Teaching Award (2x)	<i>Department of Computer Science, Duke, 2021 and 2023</i>
Best Master Thesis (Title: Encouraging Peer Grading in MOOCs)	<i>GIEE, NTU, 2017</i>

TEACHING EXPERIENCES

CS230 Discrete Mathematics, Duke	[Spring 24 - as Instructor of Record]	[Fall 23]	[Spring 21]
CS216 Everything Data, Duke		[Spring 23]	[Fall 22]
CS330 Intro to the Design and Analysis of Algorithms, Duke		[Fall 21]	[Fall 20]
EE5182 Advanced Algorithms, NTU			[Spring 17]
EE5048 The Design and Analysis of Algorithms, NTU		[Fall 16]	[Fall 15]
EE2008 Discrete Mathematics, NTU			[Spring 16]

ACADEMIC SERVICES

Reviewer, ACM ITiCSE	2024
Reviewer, ACM SIGCSE TS	2023, 2024
Reviewer, IEEE GLOBECOM	2018

TALKS

- “Characterizing Computing Students' Academic Help-seeking Behavior”, ACM Conference on International Computing Education Research (ICER) – Doctoral Consortium, Chicago, August 2023.
- “Characterizing computing students' academic help-seeking behavior across courses and help resources”, UCSD Computer Science, Online, May 2023.
- “What Drives Students to Office Hours: Individual Differences and Similarities”, ACM Technical Symposium on Computer Science Education (SIGCSE TS), Toronto, Canada, March 2023.
- “Optimal Price Discrimination for Randomized Mechanisms”, ACM Conference on Economics and Computation (EC), Online, July 2022.
- “Optimizing Item and Subgroup Configurations for Social-Aware VR Shopping”, International Conference on Very Large Data Bases (VLDB), Online, August 2020.
- “On VR Spatial Query for Dual Entangled Worlds”, ACM Conference on Information and Knowledge Management (CIKM), Beijing, China, November 2019.

MISCELLANEOUS

Co-editor of *Benson's amazement in probability*, a bestseller collection of self-proposed peer-assessment problems in flipped-classroom undergraduate probability classes in Taiwan. ISBN: 9789861371832