

SHAO-HENG KO

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RESEARCH INTERESTS

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

EDUCATION

Duke University 2020 - now

- 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

Research Assistant, 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)

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.
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.

*Equal contribution.

PUBLICATIONS - JOURNAL ARTICLES

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.

*Equal contribution.

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 *The Graduate School, Duke, AY 2023-24*
Outstanding Teaching Award *Department of Computer Science, Duke, 2021 and 2023*
Best Master Thesis (Title: Encouraging Peer Grading in MOOCs) *GIEE, NTU, 2017*

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 SIGCSE TS 2022, 2023
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