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

- Manufacturing NTU MOOCs on Coursera
- Designed and produced mini-MOOC prototypes, exhibited in ZaShare 2017
- Wrote column pieces to promote online learning
- Co-organized and paneled the "Why MOOCs" workshop

PUBLICATIONS

7. 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.
6. 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.
5. 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.
4. S.-H. Ko, K. Munagala. *Optimal Price Discrimination for Randomized Mechanisms.* ACM Conference on Economics and Computation (EC) 2022.
3. P. K. Agarwal, S.-H. Ko, E. Taylor, K. Munagala. *Locally Fair Partitioning.* AAAI Conference on Artificial Intelligence 2022.
2. 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.
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.

AWARDS AND HONORS

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

TEACHING EXPERIENCES (*INCLUDING LECTURING)

CS216 Everything Data*, *Duke* [Spring 23] [Fall 22]
CS330 Intro to the Design and Analysis of Algorithms*, *Duke* [Fall 21] [Fall 20]
CS230 Discrete Mathematics*, *Duke* [Spring 21]
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 2022, 2023
Reviewer, IEEE GLOBECOM 2018

TALKS

- "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