



CECS Seminar

“Answering Multi-Dimensional Analytical Queries under Local Differential Privacy”



Tianhao Wang

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Indiana

Thursday, February 27, 2020
11:00 a.m. – 12:00 p.m.
Engineering Hall 2430

Abstract: When collecting information, local differential privacy (LDP) relieves users' privacy concerns, as it adds noise to users' private information. The LDP technique has been deployed by Google, Apple, and Microsoft for data collection and monitoring. In this talk, I will share the key algorithms we developed in a Chinese e-commercial company Alibaba. We study the problem of answering multi-dimensional queries under LDP. Several algorithms are proposed to handle queries with different types of predicates and aggregation functions. We built a prototype that enables different departments to collect, share, and analyze data within the company.

Biography: Tianhao Wang is a Ph.D. candidate in the department of computer science, Purdue University, advised by Prof. Ninghui Li. He received his B.Eng. degree from software school, Fudan University in 2015. His research interests include differential privacy and local differential privacy. He is a recipient of the Bilslund Dissertation Fellowship and the Emil Stefanov Memorial Fellowship. He was a member of DPSyn, which won the second-place award in the NIST PSCR Differential Privacy Synthetic Data Challenge.