大数据时代的新型数据查询方法
New Query Approach in big data era

　　本课程主要介绍大数据时代的新型数据访问技术。在大数据时代，数据的形式、访问方法和计算平台都存在新的变化，在这些变化的推动下，产生了很多新的、当前计算机领域热点的问题、技术和研究。本课程在数据访问方式方面，主要介绍天际线（SKYline）和 top-k 查询两种当前常见的统计查询在大数据环境下的实现原理，特别针对空间数据上的 skyline 查询方法进行说明，并介绍在 Map／Reduce 平台上进行 skyline 查询的算法进行介绍。在数据形式方面，本课程将针对大数据时代广泛出现的实体／联系图的数据形式，从复杂网络的角度对图数据的处理理论进行论述，并在此基础上，介绍从海量领域或通用文本数据中构建实体／联系图数据的方法进行介绍，并在此基础上对实体／联系图数据上的索引结构和查询方法进行介绍，特别说明在分布式计算环境中大规模图数据查询处理的实现方法。

教师风采

Dr. Arbee Chen received a PhD in computer engineering from the University of Southern California, USA and is currently affiliated with Asia University and National Tsing Hua University, Taiwan. Dr. Chen was a Member of Technical Staff at Bell Communications Research, and a Research Scientist at Unisys, USA. Dr. Chen continuously serve in various capacities for international conferences and journals. His current research interests include big data analytics and top-k queries. He has published more than 250 papers in renowned international journals and conference proceedings, and was a visiting scholar at Kyoto University, Stanford University, King's College London, Boston University, Harvard University, and Hong Kong University of Science and Technology.

Dr. June Zhang received a PhD in computer engineering from Carnegie Mellon University, USA and is currently affiliated with Center for Disease Control. Dr. Chen was a Member of ORISE Research Fellow at Centers for Disease Control and Prevention, and an assistant professor at University of Hawai'i, USA. Dr. Zhang continuously serve in various capacities for international conferences and journals. Her current research interests include network processes and signal processing. She has published more than 10 papers in renowned international journals and conference proceedings, and was a visiting scholar at Tsinghua University.

Dr. Wei Wang is a Professor in the School of Computing Science at Fudan University. He received his BEng (Computer Science) in 1992 from The Department of Computer Science in ShanDong University, and MPhil (Computer Science) in 1998 from the Department of Computer Science in the Fudan. He was a visiting scientist in the Department of Computer Science in Simon Fraser University. Prof. Wei Wang was received the second prize of natural science Award by the Ministry of Education of the people's republic of China in 2012. He was grant the Program for New Century Excellent Talents in University of Ministry of Education of China and the Shanghai Science and Technology Committee Rising-Star Program in 2005. He has served as PC members and reviewer for major conferences (e.g., ICDM, CIKM, WAIM). His research area includes data management and analysis in IOT, knowledge graph, Medicine information management. He has published more than 30 papers in the major conferences and journals(e.g., SIGMOD, VLDB, SIGKDD, CIKM, ICDE, ICDM, TKDE).

课程设置

学分：2 学分　　　　　　　　学时：36 学时
基础知识要求：选课学生具备基本的数据库和数据挖掘知识
上课时间：2018 年 7 月 16 日 - 26 日
上课教室：Z2101（张江校区）
课程助教：王齐童，学号：16210240055，
邮箱地址：qtwang16@fudan.edu.cn，
手机号：18502127069.

选课网址：

http://register.fudan.edu.cn/p/publish/show.html?queryType=set&searchName=paidInfo.search
&projectId=66338

课程进度安排：2018 年 7 月 16 日至 7 月 26 日				
日期	星期	节次[2]	上课内容	授课教师
July.16	一	2-4	● Introduction to Skyline Queries and Top-k Queries Continuous Probabilistic Skyline Queries	Arbee Chen
July.17	二	2-4	● Dynamic Skyline Queries for Query Ranges Continuous Spatial Skyline Queries	Arbee Chen
July.18	三	2-4	● Finding Targets with Constraints by Skyline Queries Top-k Queries by Reverse Constrained Skyline Queries	Arbee Chen
July.19	四	2-4	● MapReduce Skyline Query Processing Top-k Queries in Spatial Databases	Arbee Chen
July.20	五	2-4	● Top-k Queries based on Reverse Top-t Queries Current Research on Skyline Queries and Top-k Queries	Arbee Chen
July.23	一	2-4	● Entity data management and analysis	Wei wang
July.24	二	2-4	Graph data management and analysis with complex network	June Zhang
July.25	三	2-4	Graph data management and analysis with complex network	June Zhang
July.26	四	2-4	Knowledge Graph	Wei Wang