



UNLEASHING THE POTENTIAL OF DATA-DRIVEN NETWORKING

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ABSTRACT: The last few years have witnessed the coming of age of data-driven paradigm in various aspects of computing (partly) empowered by advances in distributed system research (cloud computing, MapReduce, etc). In this talk, we observe that the benefits can flow the opposite direction: the performance of networked systems, especially Quality of Experience (QoE) of Internet applications, can be improved by data-driven paradigm. To this end, I will present Data-Driven Networking (DDN), a new design framework for network protocols based on data-driven paradigm. We argue that DDN has the potential to achieve significantly better QoE through harnessing more data than one single flow. In particular, I will try to systematize existing instantiations of DDN, and shed light on the common challenges and reusable design principles. We believe that by systematizing this paradigm as a broader community, we can unleash the unharnessed potential of DDN for QoE optimization.

BIOGRAPHY: Junchen Jiang is an Assistant Professor at University of Chicago (starting in 2018). His research interests are in networked systems, and in particular, how to leverage data-driven techniques and massive real-time measurement data to drastically improve the performance and reliability of networked systems. He has published over 20 papers in top networking and system venues, including SIGCOMM, NSDI, CoNEXT, VLDB, INFOCOM. He received his bachelor's degree in computer science from Tsinghua University (Yao's Class) in 2011. He received Juniper Networks Fellowship, and has won a paper award from ACM CoNEXT 2012.

