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**AI科学前沿系列学术讲座**

**报告题目：**Deep Graph Made Easy (and faster)

**报告人：**张峥（上海纽约大学）

**报告摘要：**All real-world data has structures that are best described as graphs. If there is one data structure for deep learning algorithms, graph would be the foremost candidate. The graph structure can be either explicit, such in social networks, knowledge graphs, and protein-interaction networks, etc., or latent and implicit, as in the case of languages and images. Leveraging and discovering graph structures have many immediate applications and also serves as a futile ground for the next generation of algorithms.This talk begins with a general survey of deep graph learning, and then we will discuss a few new research work at AWS Shanghai AI Lab in this direction. We will introduce DGL, an open-source platform designed to accelerate research in this new emerging field, with its philosophy to support graph as the core abstraction and take care to maintain both forward (i.e. supporting new research ideas) and backward (i.e. integration with existing components) compatibility. DGL enables arbitrary message handling and mutation operators, flexible propagation rules, and is framework agnostic so as to leverage high-performance tensor, autograd operations, and other feature extraction modules already available in existing frameworks. DGL carefully handles the sparse and irregular graph structure, deals with graphs big and small which may change dynamically, fuses operations, and performs auto-batching, all to take advantages of modern hardware. DGL has been tested on a variety of models, including but not limited to the popular Graph Neural Networks (GNN) and its variants, with promising speed, memory footprint and scalability.

**报告人简介：**Zheng Zhang is Professor of Computer Science, NYU Shanghai; Global Network Professor, NYU. He also holds an affiliated appointment with the Department of Computer Science at the Courant Institute of Mathematical Sciences and with the Center for Data Science at NYU's campus in New York City. Prior to joining NYU Shanghai, he was the founder of the System Research Group in Microsoft Research Asia, where he served as Principle Researcher and research area manager. Before he moved to Beijing, he was project lead and member of technical staff in HP-Labs. He holds a PhD from the University of Illinois, Urbana-Champaign, an MS from University of Texas, Dallas, and a BS Fudan University.Zhang’s research interests are theories and practices of large-scale distributed computing and its intersection with machine learning, in particular deep-learning. He has published extensively in top system as well as machine learning conferences (OSDI, Eurosys, NSDI, NIPS, CVPR etc.), and is also known for his column “Zheng Zhang on Science,” which is published in Chinese Business.Zhang is a member of the

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Association for Computing Machinery and founder of the SIGOPS APSYS workshop and the CHINASYS research community. He served regularly as PC members of leading system conferences. During his tenures in industrial labs, he was awarded 40 patents and made numerous contributions to product lines. He has several Best Paper awards as well as awards for excellence from Microsoft and HP-Labs. Professor Zhang's works can be found on his Google Scholar Page (https://scholar.google.com.hk/citations?user=k0KiE4wAAAAJ&hl=en).

Zhang was founder and advisor for DL platforms such as MXNet (https://mxnet.apache.org/), MinPy (https://github.com/dmlc/minpy) and most recently DGL (https://www.dgl.ai/), bringing deep learning practise to graph (see his github page (https://github.com/zzhang-cn)) As of fall of 2018, Professor Zhang is taking a leave of absence and has joined Amazon AWS, taking the role of Director of AWS Shanghai AI Lab.

**时间：**2019年4月11-12日8:30--17:30

**地点：**中教一、二层报告厅，7号楼报告厅，研究生院101报告厅

**主办**：研究生院

**承办**：图书馆

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