
Blockchain Meet Deep Learning

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Abstract:

With the transformation of Internet from information network to value network, blockchain technology is considered as an effective solution to replace the traditional central trusted-authority in the future due to its characteristics such as decentralization, transparency, traceability, security, anonymity. The successful application of blockchain in digital currency, finance, logistics, supply chain, etc. has attracted tremendous interests from both research communities and industry.

Blockchain will be more powerful when converged with technologies such as artificial intelligence, big data, and the Internet of things. The proof-of-work consensus mechanism of blockchain sets an extremely high demand for computational capability, but the computation itself is meaningless and waste of energy. At the same time, more and more deep learning tasks urgently need computation resource. Therefore, we investigated the combination of blockchain technology and deep learning.

This talk will present the basic principle, development route, successful applications of blockchain technology, and introduce design proposal for the combination of blockchain and deep learning, followed by the deep learning task allocation scheme based on blockchain.



Biography: Yifei Wei is currently a full professor at Beijing University of Posts and Telecommunications (BUPT), China. He received the B.Sc. and Ph.D. degrees in Electronic Engineering from BUPT, in 2004 and 2009, respectively. He was a visiting Ph.D. Fellow in Carleton University (Canada) from 2008 to 2009. He was a research fellow in the Dublin City University (Ireland) in 2013 and 2019. He was the vice dean of School of Science in BUPT from 2014 to 2016. He was a visiting scholar in the University of Houston (USA) from 2016 to 2017. His current research interests are in energy-efficient networking, deep learning, and blockchain. Prof. Wei was supported by the National Natural Science Foundation of China in 2011, 2015 and 2018. He was involved in several projects funded by National High Technology Research and Development Program of China, and International cooperation projects. He has published more than 50 papers in journals and conferences, and applied more than 20 patents in recent years. He received the best paper awards at the ICCTA2011 and ICCCS2018. He has been serving as the Editor of Transactions on Blockchain Technology and Applications, and been serving on the Technical Program Committees or Symposium Chairs of IEEE conferences. Prof. Wei is the leading author of the new book (in Chinese so far) entitled “*Blockchain Principles, Architectures and Applications*”, which was already sold more than 10,000 hard copies.

