



Guest Editorial: Special issue on “Web-based intelligent financial services: emerging challenges and recent advances” in world wide web -- internet and web information systems

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The proliferated web technologies have fastened the evolution from traditional financial services to web-based financial services with massive e-transactions in the past two decades. The recent advances of cloud, services computing, artificial intelligence (AI), and blockchain technologies have driven the development of next generation of financial services featured with resilient, scalable, reliable, and intelligent services across diverse financial services institutions. This special issue is dedicated to exploring the state of the art in research and development of new web-based financial services. This special issue received nearly 20 submissions, among which six articles have been eventually accepted. Each paper underwent a rigorous peer-review process and revision process (some of them experienced two rounds of revision).

Fan et al. investigated the liquidity mining in decentralized finance (DeFi) services. In particular, a detailed analysis of liquidity providers’ (LPs) activities on Uniswap (i.e., one of the most representative DeFi services). Moreover, this study provides some insightful findings such as the impact of governance tokens on liquidity mining. Cai et al. addressed the privacy preservation issue when outsourcing multimedia data to untrusted clouds. In particular, the privacy-preserving scheme was proposed to store the privacy proportions of multimedia data at different servers and directly outsource the storage of the remaining proportions without disclosure of sensitive information. Experimental results also validate the effectiveness of the proposed scheme. Wu et al. proposed a blockchain-based secure sharing scheme for real estate financial credentials. This scheme has three characteristics: credential confidentiality, anonymous authentication, identity tracking and transaction auditing. Both analytical results and simulations demonstrate the security assurance and the feasibility of the proposed scheme.

Jiang et al. investigated the precise marketing of financial products. In particular, a click through rate prediction model was proposed to achieve the precision marketing of financial products. The proposed model not only has specific application value in the field of financial products marketing, but also provides an idea reference for data-driven marketing model-

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ling. Zhou et al. proposed a novel Multi-Scale Fusion Graph Neural Network (MSFG) to the over-smoothing issue caused by superimposing GNN to increase the receptive field when extracting high-order local structures for graph financial data. Kong et al. aimed to explain the vulnerability aroused by batch normalization under adversarial images in financial services and discovered that both natural and medical images contain a large number of trivial features, which can be exploited by adversarial attacks. Experiments on four benchmark datasets confirm the key findings and interpretation.

We would like to thank all the authors who contributed their submissions to this special issue at WWWJ. We also would like to express our thanks to the experts in the field who voluntarily participated in the review process on a very tight schedule. Last but not least, we want to give our deepest thanks to the Editor-in-Chief, Prof. Yanchun Zhang and Prof. Marek Rusinkiewicz, for providing us with timely guidance and support.

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