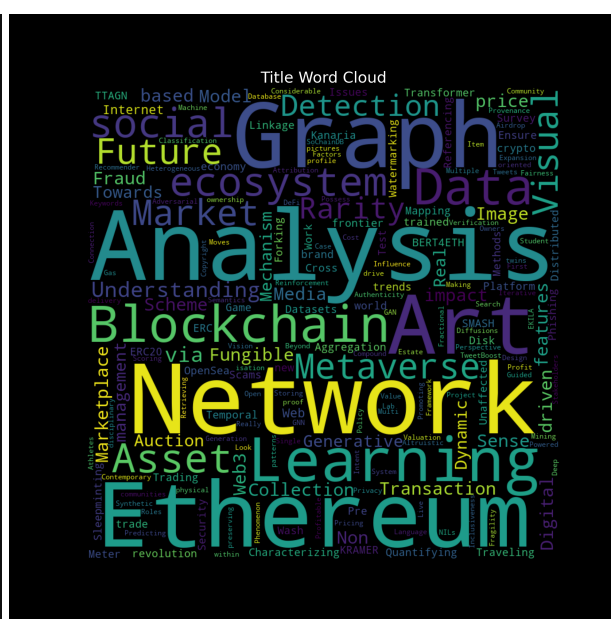
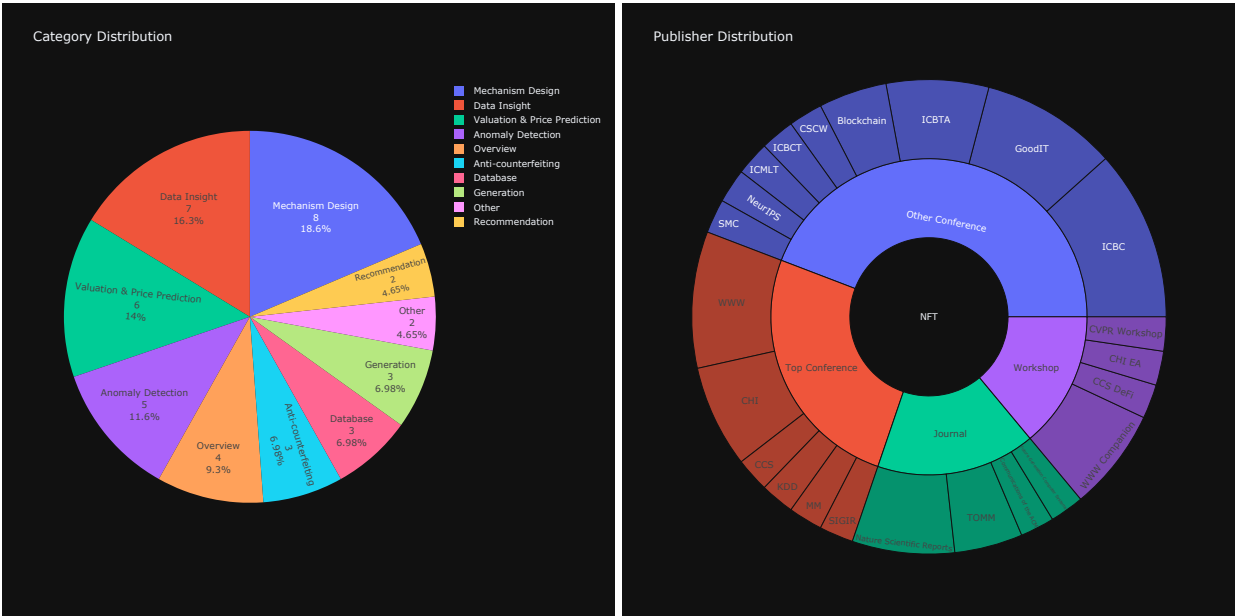


We collect papers related to data-driven analysis and application for non-fungible token (NFT) from top conferences, journals, and specialized domain-specific conferences. We then categorize them according to their specific tasks for better organization.

- KDD, WWW, SIGIR, ...
- CHI, CSCW, ...
- CVPR, MM, TOMM, ...
- CCS, ...
- Nature Scientific Reports, ...

- IBCB - [IEEE International Conference on Blockchain and Cryptocurrency](#)
- Blockchain - [IEEE International Conference on Blockchain](#)
- ICBTA - [ACM International Conference on Blockchain Technology and Application](#)
- GoodIT - [ACM Conference on Information Technology for Social Good](#)





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Overview

1. Mapping the NFT revolution: market trends, trade networks, and visual features

Nadini, Matthieu and Alessandretti, Laura and Di Giacinto, Flavio and Martino, Mauro and Aiello, Luca Maria and Baronchelli, Andrea

Nature Scientific Reports, 2021. journal
2. Non-fungible tokens and the future of art

Kugler, Logan

Communications of the ACM, 2021. journal
3. Characterizing the OpenSea NFT Marketplace

White, Bryan and Mahanti, Aniket and Passi, Kalpdrum

WWW Companion, 2022. workshop
4. Web 3.0: The Future of Internet

Gan, Wensheng and Ye, Zhenqiang and Wan, Shicheng and Yu, Philip S.

WWW Companion, 2023. [workshop](#)

Tasks

Data Insight

1. Traveling the token world: A graph analysis of Ethereum ERC20 token ecosystem

Chen, Weili and Zhang, Tuo and Chen, Zhiguang and Zheng, Zibin and Lu, Yutong

WWW, 2020. [conference](#)

2. Networks of Ethereum Non-Fungible Tokens: A graph-based analysis of the ERC-721 ecosystem

Casale-Brunet, S. and Ribeca, P. and Doyle, P. and Mattavelli, M.

Blockchain, 2021. [conference](#)

3. Quantifying NFT-driven networks in crypto art

Vasan, Kishore and Janosov, Milán and Barabási, Albert-László

Nature Scientific Reports, 2022. [journal](#)

4. Graph Analysis of the Ethereum Blockchain Data: A Survey of Datasets, Methods, and Future Work

Khan, Arijit

Blockchain, 2022. [conference](#)

5. The social impact of NFTs in the metaverse economy

Guidi, Barbara and Michienzi, Andrea

GoodIT, 2023. [conference](#)

6. NFT SMASH: Game to Test Your NFT Rarity Sense

Krasnoselskii, Mikhail and Madhwal, Yash and Stepin, Alexander and Yanovich, Yury

ICBC, 2023. [conference](#)

7. KRAMER: Kanaria NFT Collection Rarity Meter

Krasnoselskii, Mikhail and Madhwal, Yash and Yanovich, Yury

ICBC, 2023. [conference](#)

Anomaly Detection

1. **TTAGN: Temporal Transaction Aggregation Graph Network for Ethereum Phishing Scams Detection**

Li, Sijia and Gou, Gaopeng and Liu, Chang and Hou, Chengshang and Li, Zhenzhen and Xiong, Gang
WWW, 2022. [conference](#)

2. **Understanding Security Issues in the NFT Ecosystem**

Das, Dipanjan and Bose, Priyanka and Ruaro, Nicola and Kruegel, Christopher and Vigna, Giovanni
CCS, 2022. [conference](#)

3. **Sleepminting, the brand new frontier of Non Fungible Tokens fraud**

Guidi, Barbara and Michienzi, Andrea
GoodIT, 2022. [conference](#)

4. **NFTDisk: Visual Detection of Wash Trading in NFT Markets**

Wen, Xiaolin and Wang, Yong and Yue, Xuanwu and Zhu, Feida and Zhu, Min
CHI, 2023. [conference](#)

5. **BERT4ETH: A Pre-trained Transformer for Ethereum Fraud Detection**

Hu, Sihao and Zhang, Zhen and Luo, Bingqiao and Lu, Shengliang and He, Bingsheng and Liu, Ling
WWW, 2023. [conference](#), [code](#)

Anti-counterfeiting

1. **A Distributed Authenticity Verification Scheme Using Deep Learning for NFT Market**

Kimura, Keigo and Imamura, Mitsuyoshi and Omote, Kazumasa
ICBTA, 2022. [conference](#)

2. **NFT-Based Data Marketplace with Digital Watermarking**

Ranjbar Alvar, Saeed and Akbari, Mohammad and Yue, David (Ming Xuan) and Zhang, Yong
KDD, 2023. [conference](#)

3. **Cross-Referencing Scheme to Ensure NFT and Platform Linkage Unaffected by Forking**

Kimura, Keigo and Imamura, Mitsuyoshi and Omote, Kazumasa
ICBC, 2023. [conference](#)

Valuation & Price Prediction

1. **TweetBoost: Influence of Social Media on NFT Valuation**

Kapoor, Arnav and Guhathakurta, Dipanwita and Mathur, Mehul and Yadav, Rupanshu and Gupta, Manish and Kumaraguru, Ponnurangam

WWW Companion, 2022. [workshop](#)

2. Heterogeneous rarity patterns drive price dynamics in NFT collections

Mekacher, Amin and Bracci, Alberto and Nadini, Matthieu and Martino, Mauro and Alessandretti, Laura and Aiello, Luca Maria and Baronchelli, Andrea

Nature Scientific Reports, 2022. [journal](#)

3. The impact of NFT profile pictures within social network communities

Casale-Brunet, Simone and Zichichi, Mirko and Hutchinson, Lee and Mattavelli, Marco and Ferretti, Stefano

GoodIT, 2022. [conference](#)

4. Analysis of Non-Fungible Token Pricing Factors with Machine Learning

Ho, Kin-Hon and Hou, Yun and Chan, Tse-Tin and Pan, Haoyuan

SMC, 2022. [conference](#)

5. Understanding NFT Price Moves through Tweets Keywords Analysis

Luo, Junliang and Jia, Yongzheng and Liu, Xue

GoodIT, 2023. [conference](#)

6. NFT Scoring: An Analysis of the Considerable Features

Nourmohammadi, Reza and Arabian, Mahdi and Ghorbanpour, Masoumeh and Nazemi, Mohammad M. and Nezhadsistani, Nasim

ICBTA, 2023. [conference](#)

Recommendation

1. Predicting NFT Classification with GNN: A Recommender System for Web3 Assets

Yu, Guangsheng and Wang, Qin and Altaf, Tanzeela and Wang, Xu and Xu, Xiwei and Chen, Shiping

ICBC, 2023. [conference](#)

2. The Contemporary Art of Image Search: Iterative User Intent Expansion via Vision-Language Model

Yilin Ye, Qian Zhu, Shishi Xiao, Kang Zhang, Wei Zeng

CSCW, 2024. [conference](#)

Generation

1. NFTGAN: Non-Fungible Token Art Generation Using Generative Adversarial Networks

Shahriar, Sakib and Hayawi, Kadhim

ICMLT, 2022. [conference](#)

2. Learning Profitable NFT Image Diffusions via Multiple Visual-Policy Guided Reinforcement Learning

He, Huiguo and Wang, Tianfu and Yang, Huan and Fu, Jianlong and Yuan, Nicholas Jing and Yin, Jian and Chao, Hongyang and Zhang, Qi

MM, 2023. [conference](#)

3. EKILA: Synthetic Media Provenance and Attribution for Generative Art

Balan, Kar and Agarwal, Shruti and Jenni, Simon and Parsons, Andy and Gilbert, Andrew and Collomosse, John

CVPR Workshop, 2023. [workshop](#)

Mechanism Design

1. A Framework for Single-Item NFT Auction Mechanism Design

Milionis, Jason and Hirsch, Dean and Arditi, Andy and Garimidi, Pranav

CCS DeFi, 2022. [workshop](#)

2. Real Estate Tokenisation via Non Fungible Tokens

Serrano, Will

ICBCT, 2022. [conference](#)

3. Altruistic and Profit-oriented: Making Sense of Roles in Web3 Community from Airdrop Perspective

Fan, Sizheng and Min, Tian and Wu, Xiao and Cai, Wei

CHI, 2023. [conference](#)

4. Using NFTs for ownership management of digital twins and for proof of delivery of their physical assets

Haya R. Hasan and Mohammad Madine and Ibrar Yaqoob and Khaled Salah and Raja Jayaraman and Dragan Boscovic

Future Generation Computer Systems, 2023. [journal](#)

5. A Privacy-preserving Auction Mechanism for Learning Model as an NFT in Blockchain-Driven Metaverse

Zhang, Qinnan and Xiong, Zehui and Zhu, Jianming and Gao, Sheng and Yang, Wanting

TOMM, 2023. [journal](#)

6. Do NFTs' Owners Really Possess their Assets? A First Look at the NFT-to-Asset Connection Fragility

Wang, Ziwei and Gao, Jiashi and Wei, Xuetao

WWW, 2023. [conference](#)

7. Gas Cost Analysis of Fractional NFT on the Ethereum Blockchain

Choi, Wonseok and Woo, Jongsoo and Hong, James Won-Ki

ICBC, 2023. [conference](#)

8. Semantics and Non-Fungible Tokens for Copyright Management on the Metaverse and Beyond

García, Roberto and Cediel, Ana and Teixidó, Mercè and Gil, Rosa

TOMM, 2023. [journal](#)

Database

1. SoChainDB: A Database for Storing and Retrieving Blockchain-Powered Social Network Data

Nguyen, Hoang H. and Bozhkov, Dmytro and Ahmadi, Zahra and Nguyen, Nhat-Minh and Doan, Thanh-Nam

SIGIR, 2022. [conference](#)

2. Data Mining of Compound DeFi Project

Escamilla, Jesus Ariel Leon and Yanovich, Yury

ICBTA, 2022. [conference](#)

3. Live Graph Lab: Towards Open, Dynamic and Real Transaction Graphs with NFT

Zhen Zhang, Bingqiao Luo, Shengliang Lu, Bingsheng He

NeurIPS, 2023. [conference](#)

Other

1. Stakeholders and Value in the NFT Ecosystem: Towards a Multi-disciplinary Understanding of the NFT Phenomenon

Baytaş, Aydin and Cappellaro, Amos and Fernaeus, Ylva

CHI EA, 2022. [workshop](#)

2. Promoting Inclusiveness and Fairness through NFTs: The Case of Student-Athletes and NILs

Carvalho, Arthur and Zavolokina, Liudmila and Bhunia, Suman and Chaudhary, Monu and Yoganathan, Nitharsan

CHI, 2023. **conference**