MetaInsurance

Insurance of metaverse objects using blockchain

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NFTs

[ˈen,ˈef,ˈtēs]

noun   COMPUTING

Cryptographic tokens that live on blockchain

– each with its own unique identification codes and metadata that can not be replicated.

'Patchwork Kingdom' NFTs by UNICEF

Metaverse

/ˈmɛtəvəːs/

noun   COMPUTING

- A public digital space featuring unique, customisable avatars representing individual users,
- Where digital ownership ranges depending on how decentralized the platform is,
- where you can engage with other users,
- interact with elements of the digital world, and
- share experiences with others based on the platform
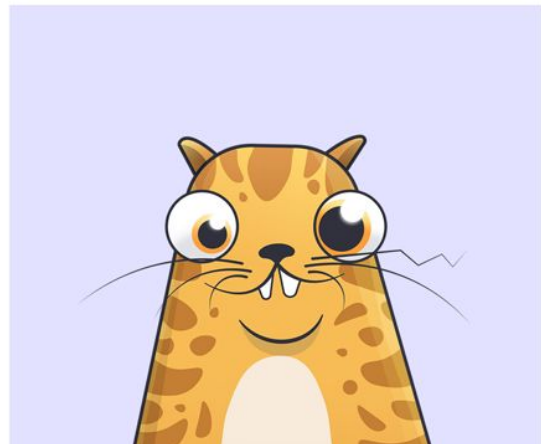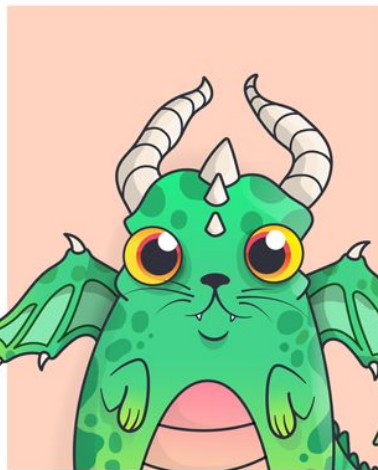

Virtual land in nemesis

Rise of NFTs

The growth of crypto collectibles was then fueled by the emergence of standards to control the creation and management of NFTs:

- ERC (Ethereum Request for Comments) 721 is the basic set of rules to be followed to create an NFT so that it is different – and therefore can have a different value from another NFT.
- ERC 1155 was added to resolve the proliferation of token types and associated smart contracts that would result from the previous standard.
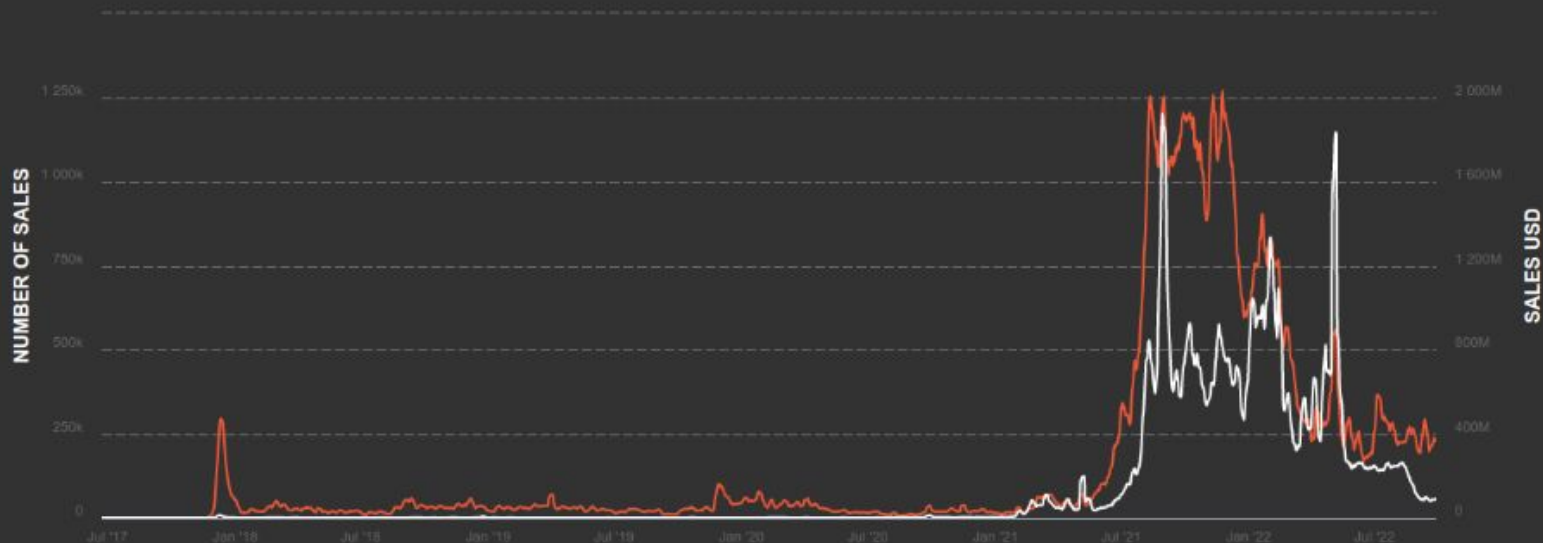
CryptoKitties

CryptoKitties ✔
@CryptoKitties

🚨🚨🚨🚨 Due to network congestion, we are increasing the birthing fee from 0.001 ETH to 0.002 ETH. This will ensure your kittens are born on time! The extra is needed to incentivize miners to add birthing txs to the chain. Long-term solution will be explored very soon! 🚨🚨🚨🚨

3:43 AM · Dec 4, 2017 · Twitter Web Client

Exponential Growth of NFT Market

Number of sales · Sales USD · All · Weekly

Number of sales	Sales USD	Average USD	Active market wallets	Primary Sales
230K 1209342.11%	US$90M 8791319.80%	US$390 626.91%	74K 927312.50%	107K 595305.56%

Secondary sales	Primary sales USD	Secondary sales USD	Unique buyers	Unique sellers
123K 12259300.00%	US$5M 514228.18%	US$85M 127738418.64%	51K 639612.50%	38K 1908500.00%

The boom in NFTs has led to a spike in crime around digital collectibles.

NFT

ART THEFT

More than $100m worth of NFTs stolen since July 2021, data shows

Fake Bored Ape NFTs Outsell Their Original Versions, Calls NFT Authenticity to Question

Marketplace suspends most NFT sales, citing 'rampant' fakes and plagiarism

Risks associated with NFTs

INFRASTRUCTURE FLAWS

a.   Loss of private key

Save Your **Private Key**.

6a66643c1503dad016c37ff3ae8b73a3fedd89ae3ec01fc5fae61e6e66d802ae

Print Paper Wallet

Do not lose it! It cannot be recovered if you lose it.

Do not share it! Your funds will be stolen if you use this file on a malicious/phishing site.

Make a backup! Secure it like the millions of dollars it may one day be worth.
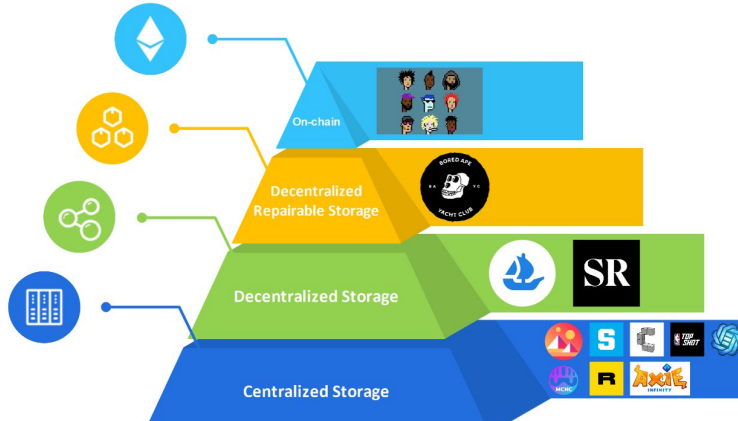
Save Your Address. →

LOST

- Two-factor authentication or multi- factor authentication for hot wallets
- Tamper-proof chips for cold wallets to keep private key away from the Internet

Risks associated with NFTs

INFRASTRUCTURE FLAWS

a. Loss of private key
b. Token failure

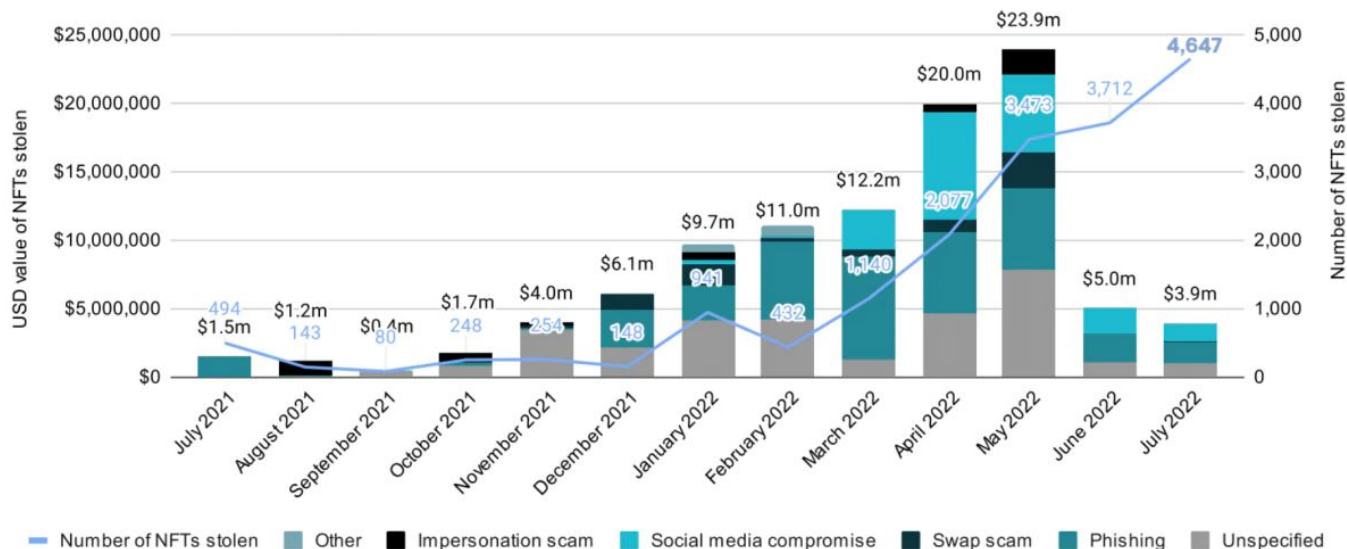*Inaccessible NFT or corrupt metadata*

On safer side, use replicated, distributed and content-addressable data storage mechanisms such as the IPFS.

Risks associated with NFTs
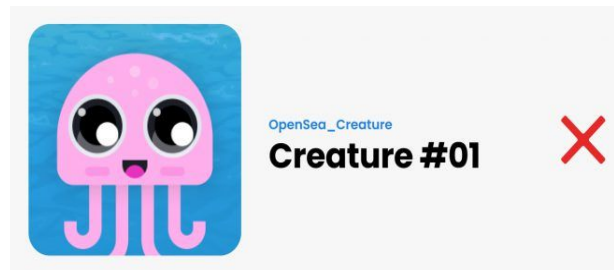
CRIMINAL ACTIVITIES

    a.   NFT Theft

Value (bars) and number (line) of NFTs stolen by month based on scam type (according to social media reports)

Risks associated with NFTs

CRIMINAL ACTIVITIES

a. NFT Theft
b. Fake NFT

- Changing token URL only – Copyminting
- Plagiarising other NFTs
- Plagiarising digital art – Copyright issues
- Insituiting that the NFT is part of a well known series

NFT Insurance

TOKEN PROTECTION

Token theft equates to loss of ownership

INHERITANCE PROTECTION

Contingency plan for release of assets to beneficiaries

PROTECTED TECHNOLOGY

Protection that we can stand behind

VALUATION

Appraisals and qualified valuation of digital assets

AUTHENTICATION

Authenticated assets maintain market value
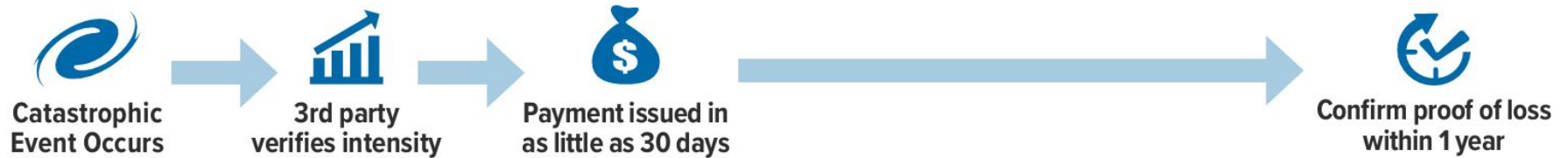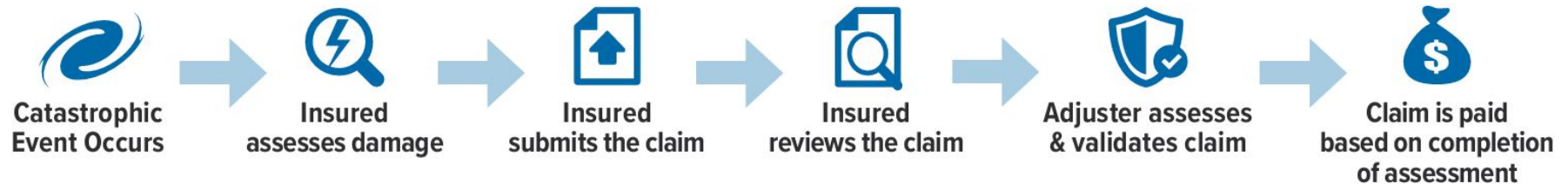
DISASTER RECOVERY

Not your keys, not your NFT

ASSET STORAGE

Possess the media you own

Parametric Insurance for NFTs

PARAMETRIC INSURANCE

Catastrophic Event Occurs → **3rd party verifies intensity** → **Payment issued in as little as 30 days** → **Confirm proof of loss within 1 year**

INDEMNITY-BASED INSURANCE

Catastrophic Event Occurs → **Insured assesses damage** → **Insured submits the claim** → **Insured reviews the claim** → **Adjuster assesses & validates claim** → **Claim is paid based on completion of assessment**

Problem Statement

In this project, we aim to design an insurance framework for metaverse objects like art, collectibles, virtual land and avatars using blockchain.
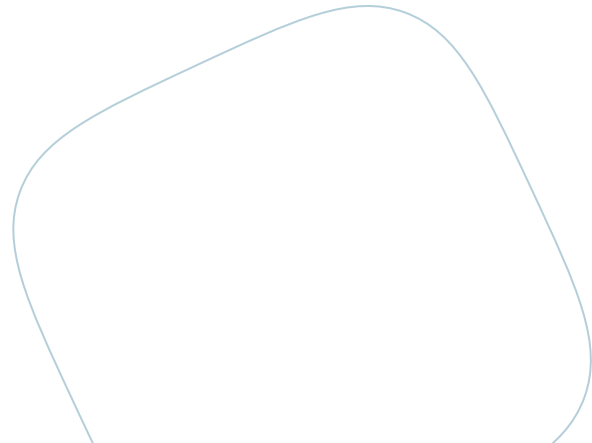
Working on 1st Challenge
– The Underwriter's Dilemma

Underwriters face the problem of lack of data and volatility related to NFT market that makes it difficult to calculate a premium and coverage price that would keep the balances green.

We intend to train a ML model that calculates

- NFT Valuation at the time of insurance proposal
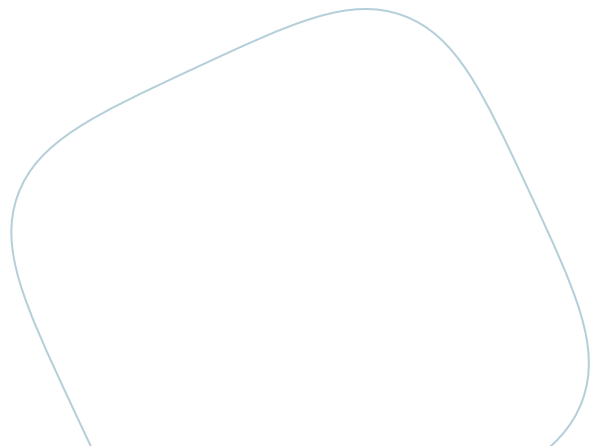- Risk Factor

Working on AI Model

NFT Valuation

We extract NFT data of top 100 collections by market cap, then train on the following features to predict its value .
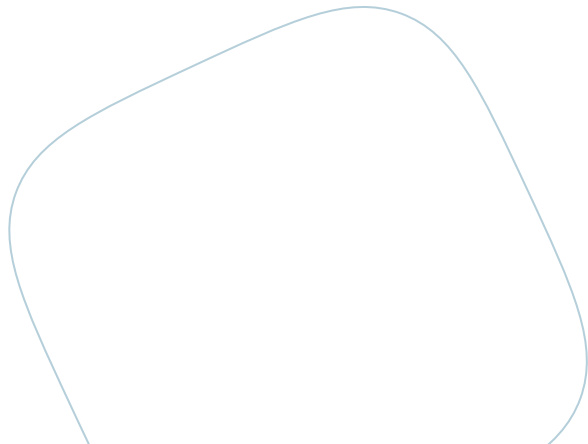
- First sale price

- Proposal cost price

- Floor sale price of collection

- List of sales

- Type of NFT [Art/ Collectible/ Virtual Land]

- Rarity based on attributes

Working on AI Model
Calculating Risk Factor

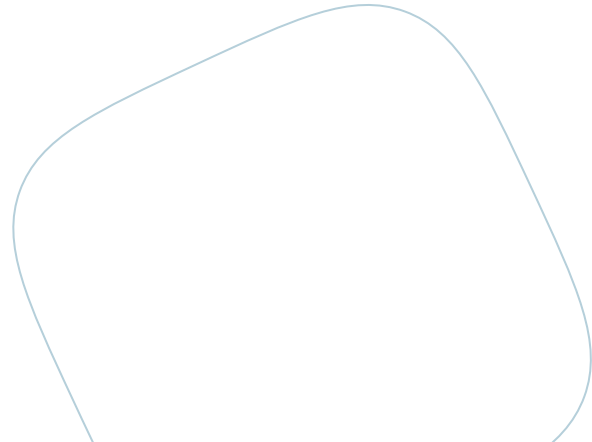Risk factor [0-1] is predicted on the basis of –

- NFT Valuation

- Storage medium of token and metadata
  Distributed storage like IPFS / Web Services like AWS / Others
- Wallet used
  Multi-factor authentication
  Cold wallets used
- Token standard

- Blockchain

Future Plan

▪ Train the model for NFT valuation and risk factor with satisfactory results.
Thereafter, work will be done to complete the insurance framework including

- ▫ Application procedure
- ▫ Claim process
- ▫ Claim review process

▪ Use of other AI models

- ▫ to prevent NFT plagiarism
- ▫ to detect NFT wash trading

Thanks!