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# DeFi, NFT & GameFi in Web3

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# Contents

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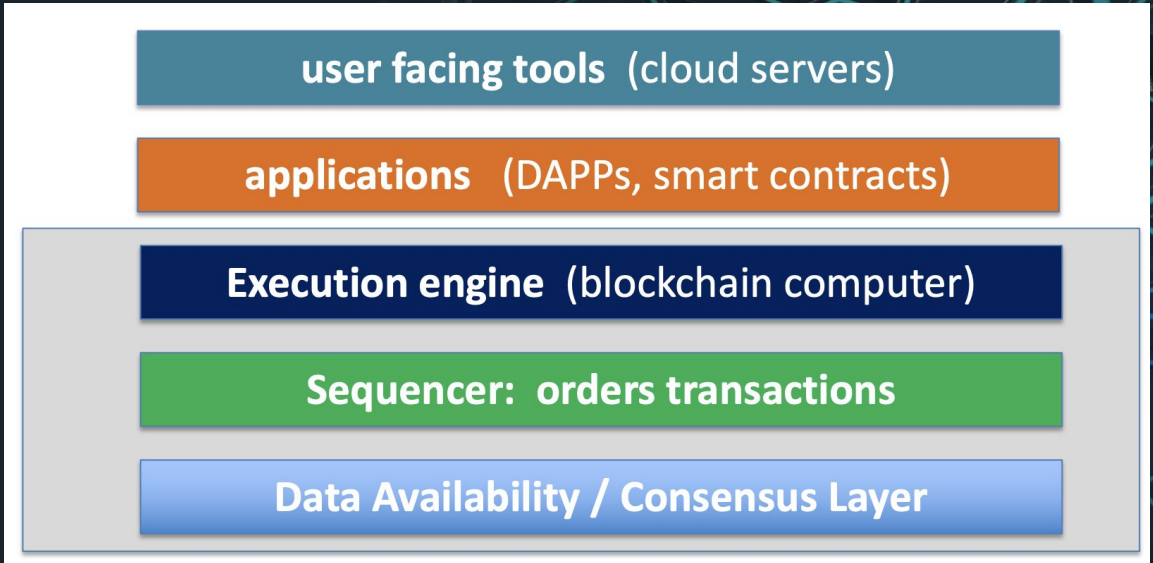
# Remind about blockchain

- **Blockchain in general:**
  - Distributed, decentralized data structure
  - High security, diverse applications




***What is a blockchain?***
***https://cs251.stanford.edu/lectures/lecture1.pdf***

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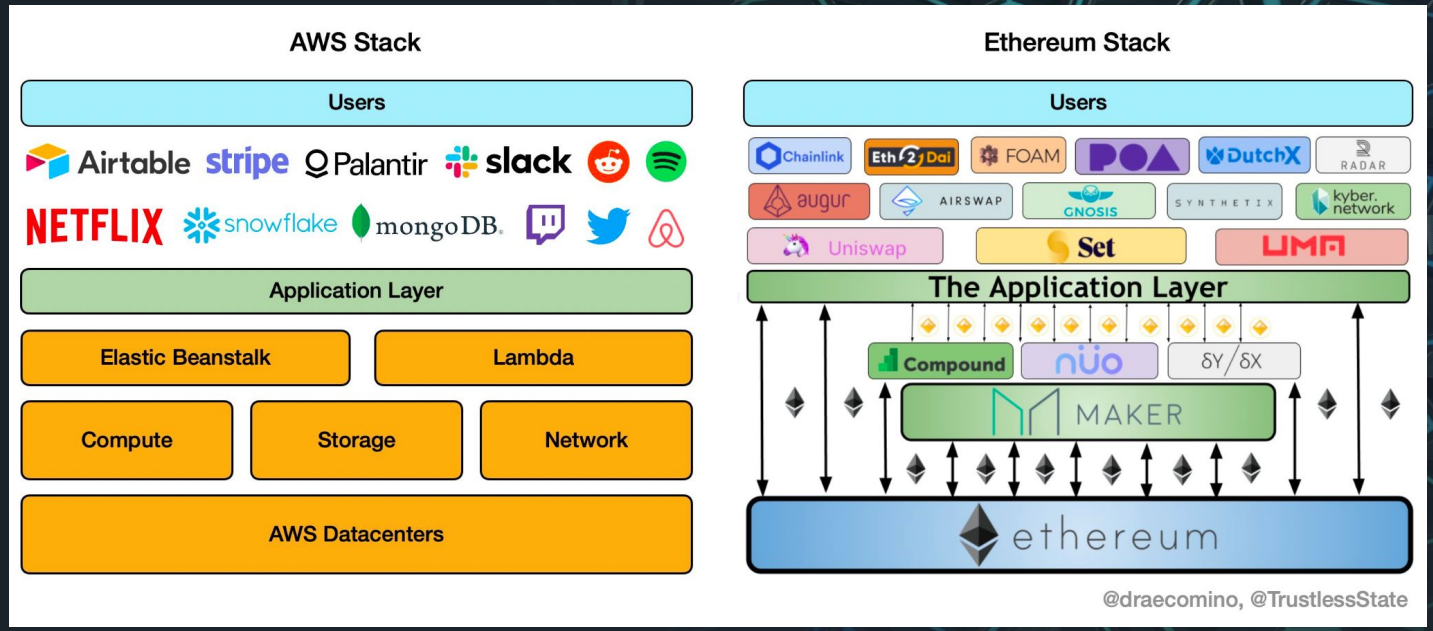
# DApps

- What is DApp?
  - Applications running on blockchain platform
  - Decentralized, not controlled by a single organization




*https://twitter.com/EricJorgenson/status/1374750843858194435*

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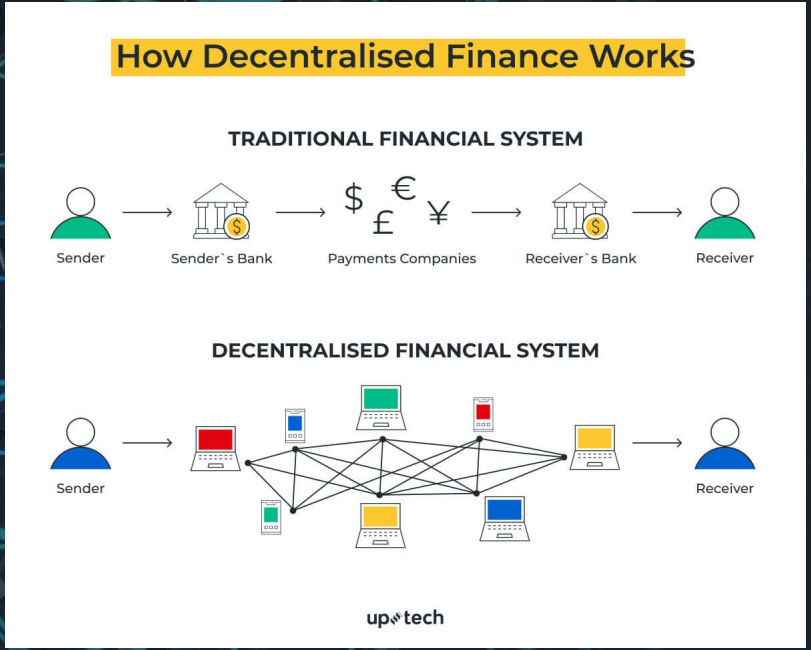
# DeFi - Decentralized Finance

- **DeFi concept:**
  - Is a financial ecosystem built on blockchain and smart contract platform, independent of centralized organization
- **Advantages of DeFi:**
  - Transparent, secure (by code, not by human)
  - Permissionless: open and accessible from anywhere
  - Allows users to manage their own assets (non-custodial)




*https://www.uptech.team/blog/the-future-of-defi-in-fintech*

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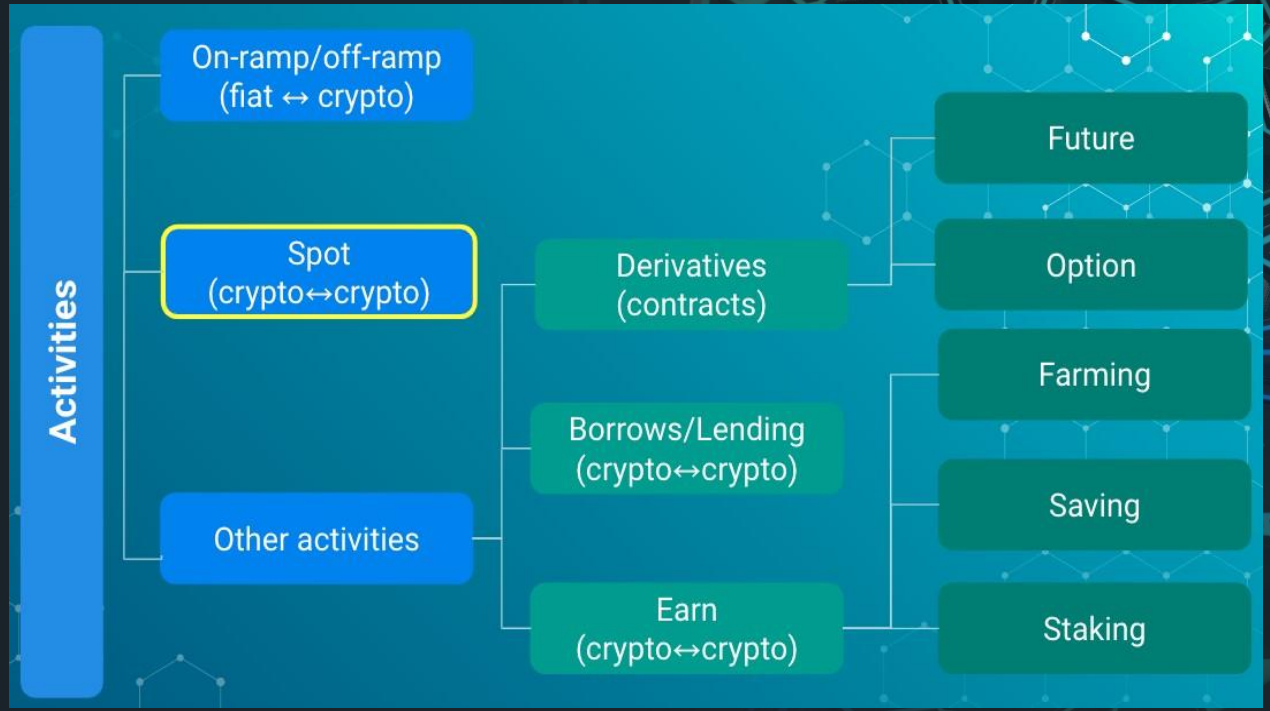
# What are Crypto centralized exchanges (CEXs)?

Centralized exchanges (CEXs) are a type of cryptocurrency exchange that is operated by a company that owns it in a centralized manner.



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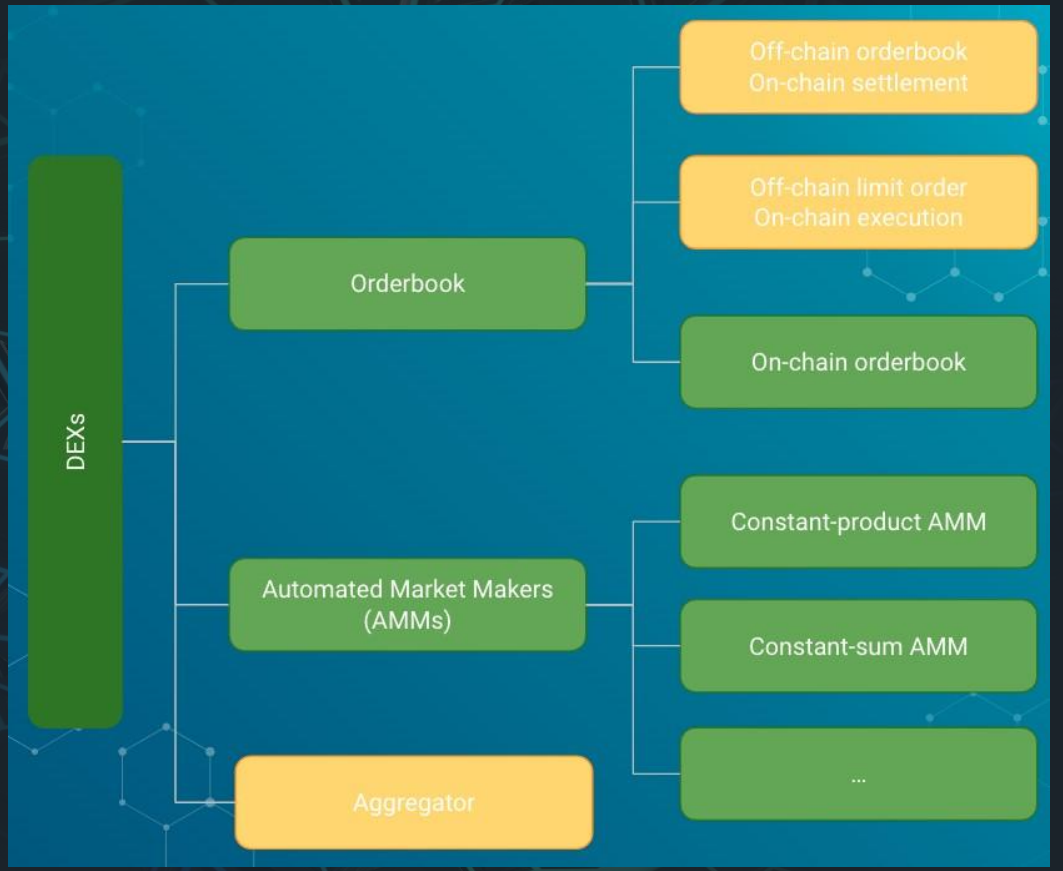
# What are Decentralized exchanges (DEXs)?

- **Decentralized exchanges (DEXs) are exchanges which operate in a decentralized and non-custodial manner.**

- **Why do we try to decentralize exchanges?**
  - Non-Custodial
  - Permissionless
  - Credibly Neutral
  - Composable/Programmable
  - No single points of control — no dependence on centralized parties
  - Transparency



# Future Trends in DeFi

- **DeFi-optimized Blockchains**
  - DeFi applications deployed on application-specific blockchains
  - Enhancing user experience with high speed, throughput, and liveness
  - Affordable, high-granularity, and low-latency price feeds
  - Example: Sei, a DeFi-focused Cosmos sidechain with optimized features
- **Liquidity Bootstrapping Structured Products**
  - Evolution of methods for bootstrapping passive liquidity
  - Need for effectively bootstrapping active liquidity
  - Structured products abstract complexity and attract capital
  - Example: Opyn Squeeth power perpetual contract and strategy vaults
- **Asset Tokenization**
  - Leveraging blockchain and DeFi for supply chain visibility and credit access
  - Tokenization of real-world financial instruments
  - Protocols like Centrifuge Tinlake, RealT, and Toucan
- **Institutional DeFi**
  - Hesitation of institutions due to compliance and regulatory uncertainties
  - Permissioned DeFi as a solution for industry-grade, cross-border settlement
  - Smart contracts automating settlement and reducing costs
  - Examples: DBS Bank, J.P. Morgan, and SBI Digital Asset Holdings pilot scheme on Polygon

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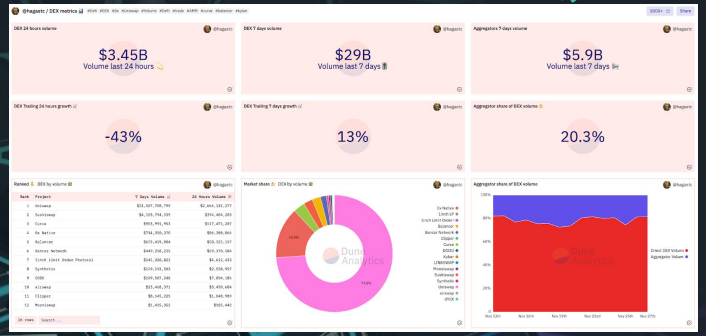
# On-chain data analysis

- On-chain data analysis refers to the process of capturing, analyzing, and interpreting transaction trends, user activities, and target groups within blockchain networks.
- It involves extracting valuable insights from blockchain data to inform trading, investment, and asset management strategies.
- By leveraging tools and methods such as Nansen and Dune, which are leading data analysis platforms, users can gain a deeper understanding of blockchain ecosystems and make informed decisions.




*https://dune.com*


*https://nansen.ai*

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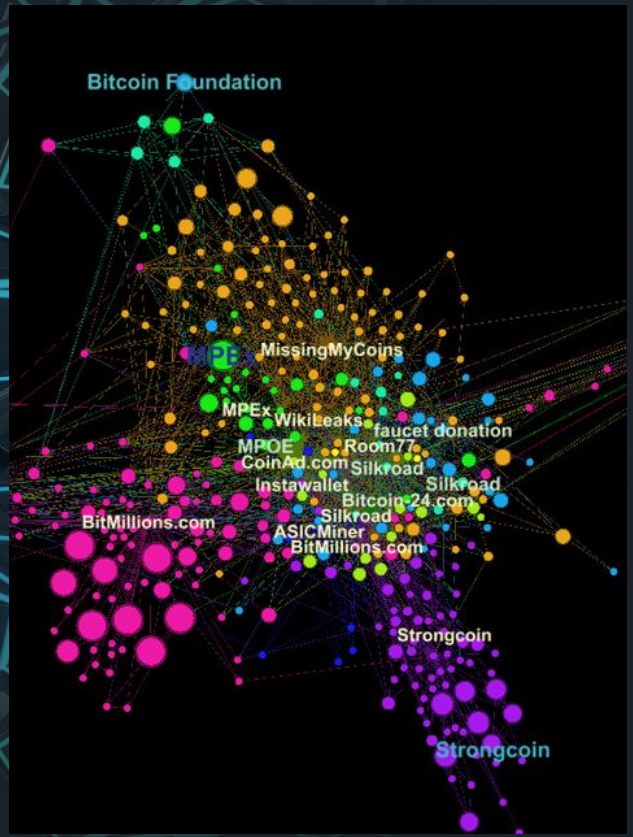
# Key Features of On-Chain Data Analysis

- **Transaction Trend Analysis**
  - Identify and analyze transaction patterns and market behavior.
  - Gain insights into trends and make informed decisions.
- **User Activity Analysis**
  - Understand user behavior and identify target audiences.
  - Analyze user activities within DApps.
- **Strategy Optimization**
  - Optimize trading, investment, and asset management strategies.
  - Base decisions on data-driven insights from on-chain analysis.
- **Statistical Techniques & Machine Learning Applications**
  - Utilize statistical methods for accurate trend analysis.
  - Extract meaningful information from large volumes of blockchain data.
  - Discover hidden patterns and predict future outcomes.
  - Personalize recommendations using ML algorithms.
- **Data Visualization**
  - Simplify complex on-chain data with charts and graphs.
  - Enhance accessibility and facilitate decision-making.



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# Future Trends in On-Chain Data Analysis

- **DeFi and GameFi Analytics**
  - Analyze user and audience activity in DeFi and GameFi.
  - Optimize strategies and understand decentralized ecosystems.
- **Project Forecasting**
  - Forecast prices, liquidity, and project development.
  - Assist investors in making informed decisions.
- **Integration with Traditional Finance**
  - Incorporate blockchain insights into traditional finance.
  - Enable financial institutions to leverage on-chain data.
- **Enhanced Privacy and Security**
  - Develop robust privacy-preserving techniques.
  - Maintain data analysis capabilities while ensuring privacy.
- **Advancements in Data Analysis Techniques**
  - Continual improvement of algorithms and tools.
  - More sophisticated, accurate, and comprehensive analysis.

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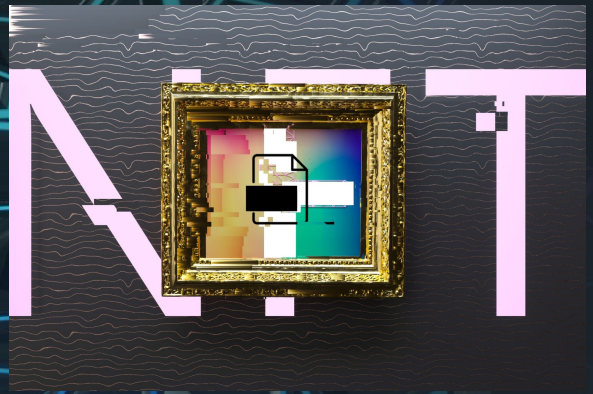
# Introduction to NFTs

- NFT stands for Non-Fungible Token, which is a type of digital asset that represents ownership or proof of authenticity of a unique item or piece of content.
- Unlike cryptocurrencies such as Bitcoin or Ethereum, which are fungible and can be exchanged on a one-to-one basis, NFTs are indivisible and cannot be exchanged on a like-for-like basis.
- **Key Features of NFTs:**
  - **Uniqueness**: Each NFT has a distinct value and cannot be replicated or replaced.
  - **Ownership** Verification: NFTs utilize blockchain technology to provide a transparent and immutable record of ownership.
  - **Interoperability**: NFTs can be bought, sold, and traded on various NFT marketplaces and platforms.
  - **Content Variety**: NFTs can represent a wide range of digital assets, including artwork, collectibles, music, virtual real estate, virtual goods, and more.



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# Introduction to GameFi

- GameFi is a new concept that combines gaming and decentralized finance (DeFi) elements.
- It aims to revolutionize the gaming experience by integrating blockchain technology and tokenized assets.
- GameFi offers opportunities for players to earn real-world value from their in-game activities and assets.
- It represents a growing trend in the gaming industry, driven by the increasing popularity of cryptocurrencies and NFTs.

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# Key Features and Benefits of GameFi

- Play-to-Earn: GameFi introduces the concept of play-to-earn, where players can earn rewards and tokens by participating in the game.
- Tokenized Assets: GameFi utilizes blockchain technology to tokenize in-game assets, allowing players to truly own and trade their virtual possessions.
- Decentralized Economies: GameFi games operate on decentralized networks, enabling transparent and fair economic systems.
- Community and Governance: GameFi projects often involve active communities and token holders who have a say in the game's development and direction.

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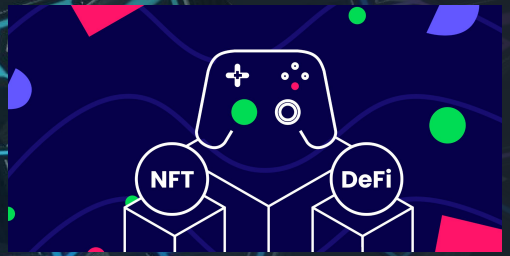
# The future of NFTs and GameFi

- NFTs have the potential to reshape industries through mainstream adoption and integration into everyday life.
- GameFi, powered by NFTs and blockchain, disrupts the gaming industry by providing new revenue streams and immersive experiences.
- Implications of GameFi:
  - New Revenue Streams: Players can earn real value through gameplay and asset ownership.
  - Innovative Experiences: Developers can create immersive gaming experiences using decentralized mechanics and play-to-earn models.
  - Security and Ownership: Blockchain enhances security and ensures ownership of in-game assets.
  - Interoperability: NFTs enable asset use and trading across different games and platforms.
- GameFi can attract traditional gamers and individuals interested in the financial aspects of gaming.



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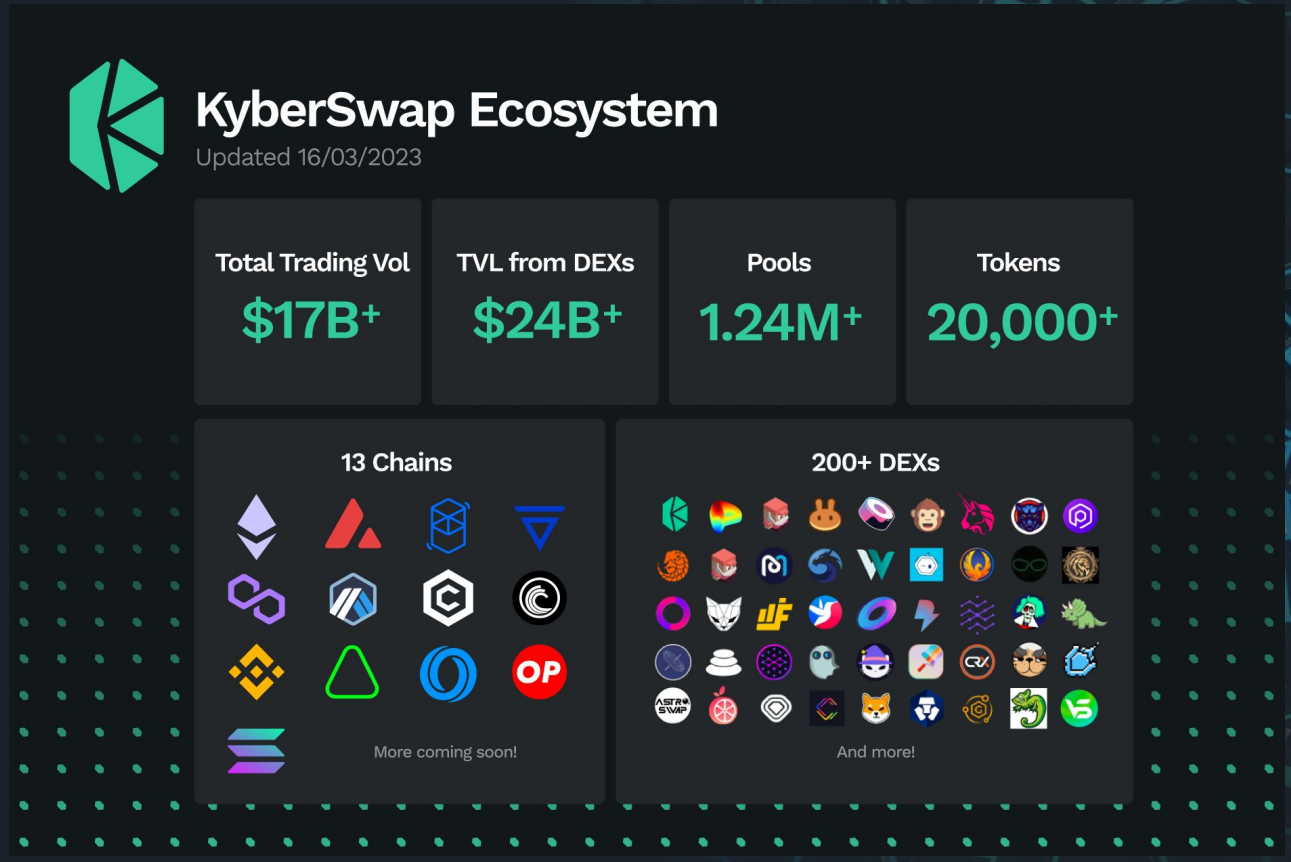
# Kyber Network Ecosystem



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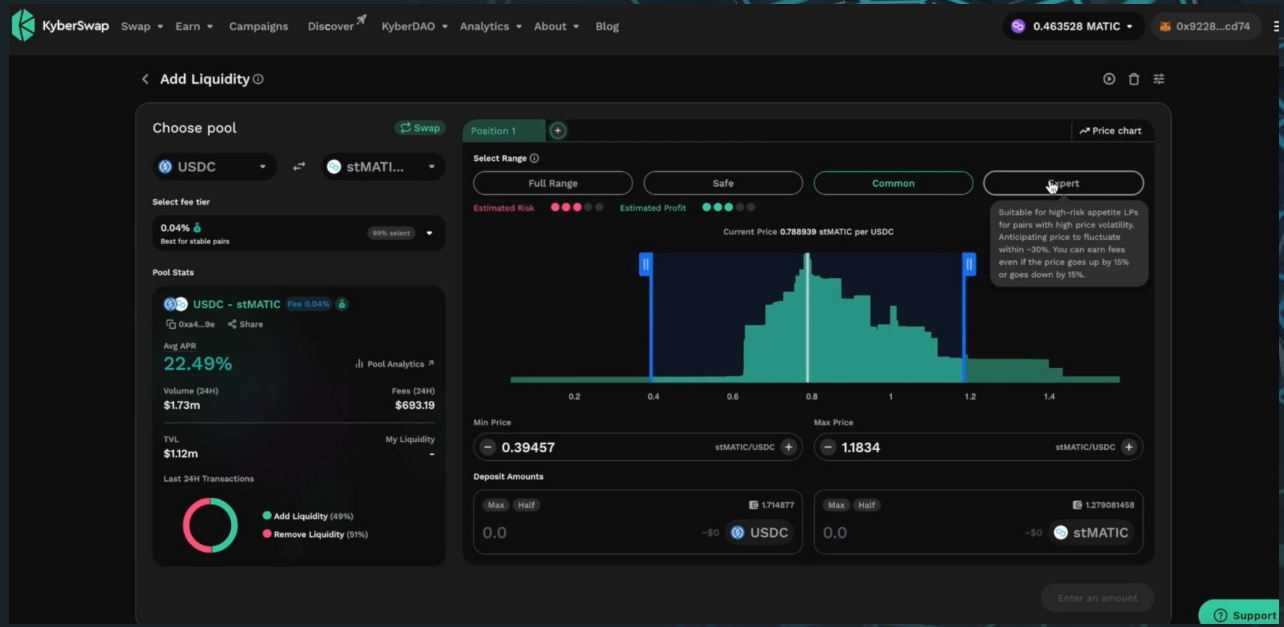
# Kyber Network Ecosystem

- **Liquidity solution:**
  - **Provide liquidity to DApps and users**
  - **Solutions to provide concentrated liquidity to increase capital efficiency**
  - **Supports fast transactions between tokens**



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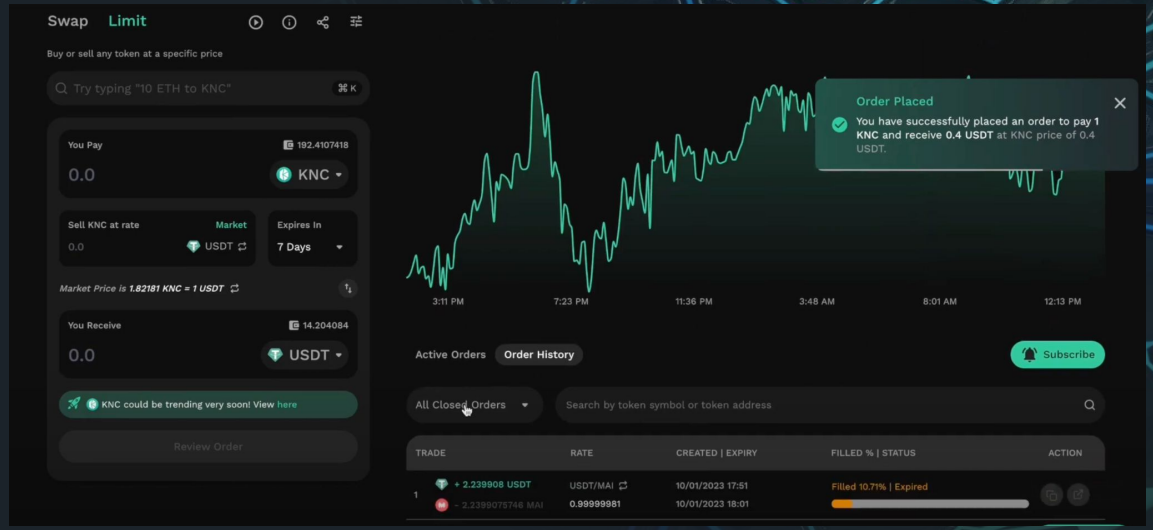
# Kyber Network Ecosystem

- **Aggregator (Liquidity Aggregator):**
  - Search and aggregate the best prices from various exchanges
  - Help users get the best deal price
- **Limit order (Limit order):**
  - Allows users to place buy/sell orders at the desired price
  - Automatically execute trades when the set price is reached



# Kyber Network Ecosystem

- **KyberAI:**
  - Using Machine Learning algorithms and multiple on-chain and off-chain indicators to identify whether a token is going to be Bullish or Bearish in the short term.
  - Assist users in making investment decisions

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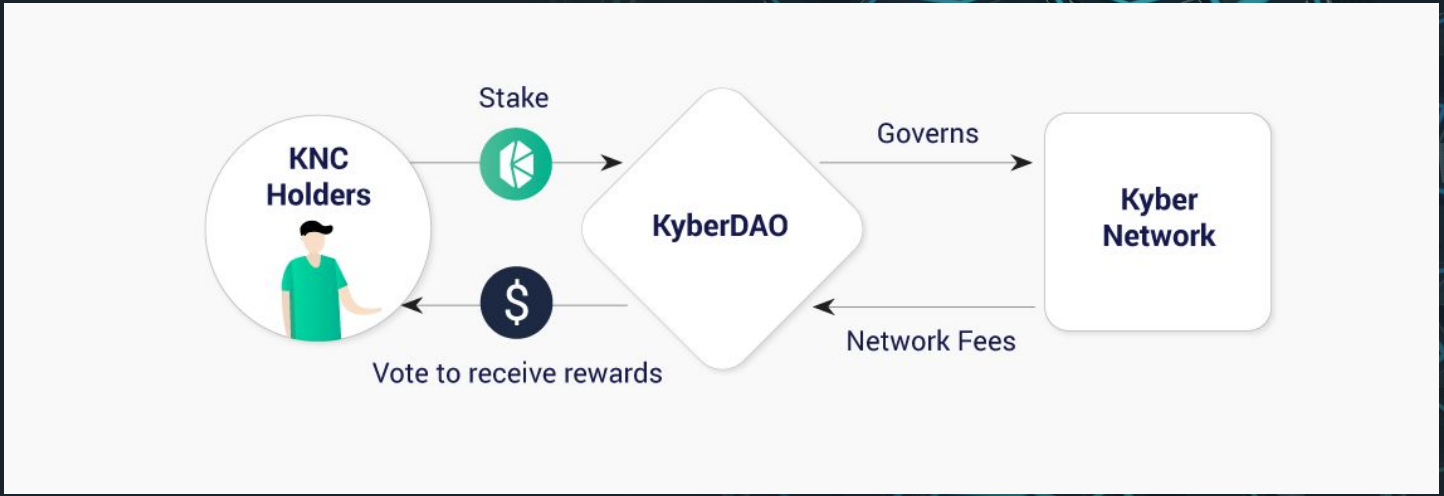
# Kyber Network Ecosystem

- **KyberDAO:**
  - Autonomous organization of the KyberNetwork . community
  - Allow members to participate in decision-making about ecosystem development



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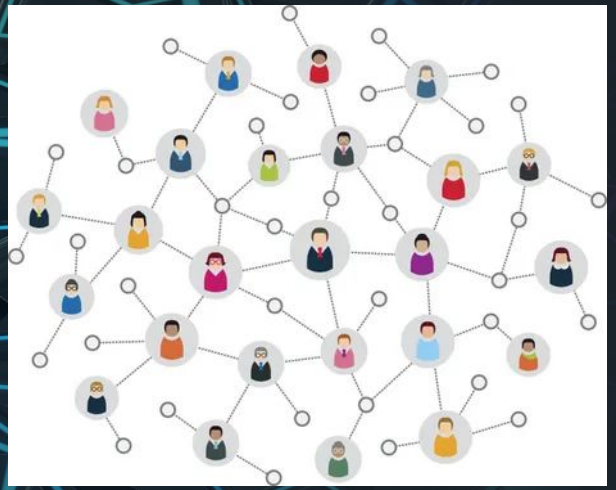
# Essential skills for blockchain programmers in general

- **Decentralized thinking:**
  - Understand and integrate with the ideology and core values of decentralization
  - Creativity and innovation in building decentralized solutions to current problems

- **Knowledge base:**
  - Understanding of blockchains, smart contracts and platforms like Ethereum, Binance Smart Chain, Arbitrum
  - Knowledge of leading DeFi protocols: Uniswap, Kyberswap, Aave, Compound
  - Understanding decentralized financial products and decentralized games



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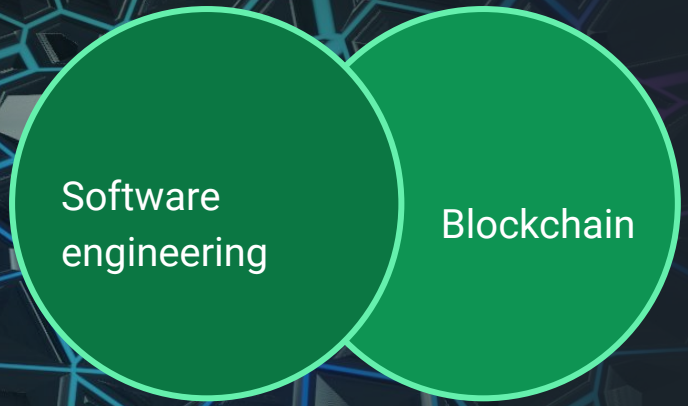
# Required skills

- **Smart Contract Developer:**
  - Programming languages: Solidity, Rust, Go
  - Safe and secure encryption, testing and optimization of smart contracts
- **GameFi Developer:**
  - Skills in developing games and decentralized financial applications
  - Knowledge of NFT, ERC-721, ERC-1155, and other token standards
- **Web3 Developer:**
  - Web application development using Web3 technologies, such as MetaMask and IPFS
  - Connecting frontend with smart contract and blockchain



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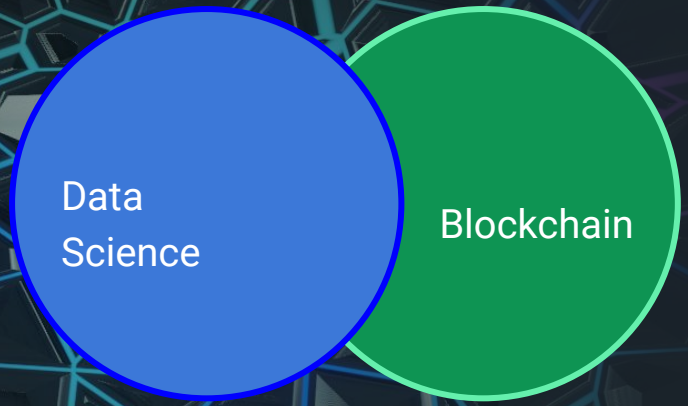
# Required skills

- **On-chain Data Engineer:**
  - Build and maintain on-chain data collection, storage and processing systems
  - Optimizing on-chain data system query performance
- **On-chain Data Scientist:**
  - Analyze data from transactions on blockchain
  - Using statistical techniques, machine learning, and data visualization



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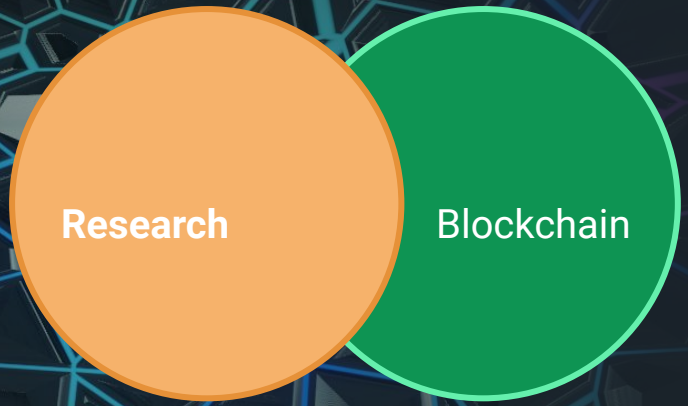
# Required skills

- **Blockchain Researcher:**
  - Analysis of protocols, algorithms, blockchain technology
  - Evaluate performance, security, scalability
  - Developing and improving blockchain technology
  - Update trends, information, knowledge

- **DeFi Researcher:**
  - Deep understanding of the DeFi ecosystem
  - DeFi protocol analysis: security, performance, stability
  - Monitor trends, innovations, risks, DeFi weaknesses
  - Developing and improving solutions, DeFi technology
  - Basic knowledge of finance



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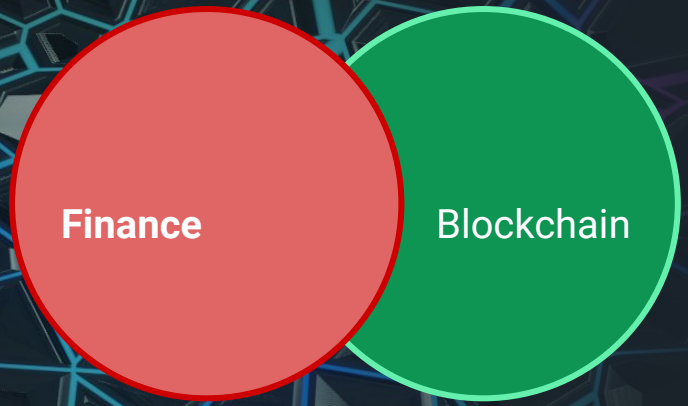
# Required skills

- **Investment Analyst:**
  - Knowledge of finance, investment and the crypto asset market
  - Technical and fundamental analysis skills to assess the value and potential of projects, companies, crypto assets
  - Monitor market trends, assess risk and performance of investment strategies
  - Report, present and assist the investment management team in making decisions
- **Crypto Quantitative Analyst:**
  - Analyze market data and crypto assets to make investment decisions
  - Build and test mathematical, statistical, and machine learning models based on historical data
  - Monitor market trends, assess risks and performance of trading strategies



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# Career opportunities in blockchain field

- **Blockchain and Web3 companies:**
  - Programmers, analysts, project managers for projects and companies developing decentralized applications, DeFi, GameFi, NFT
- **Banks and financial institutions:**
  - Expert in consulting, developing and implementing blockchain solutions for banks, insurance, investment funds
- **Government-issued stablecoins:**
  - Support the government in the development and management of stablecoins, helping to improve the transparency and efficiency of the financial system
- **Blockchain Consortium (Blockchain Alliance):**
  - Cooperation between organizations and businesses to build and develop common blockchain platforms, solving common problems in the industry

# Career opportunities in blockchain at Kyber Network & Kyber Ventures 2023

**[Kyber Network] Engineering team:**

1. Backend Engineer - HN/HCMC
2. Smart Contract Engineer and Team Lead - Anywhere
3. Data Engineer - HN/HCMC
4. Security Operations Engineer - HN/HCMC

**[Kyber Network] Research team:**

1. Blockchain Researcher - HN/HCMC
2. PHD Intern - HN/HCMC
3. Technical Writer - HCMC
4. Data Scientist - HN/HCMC
5. DeFi Research Intern - HN/HCMC

HOW TO APPLY

- Please send your CV to hr@kyber.network with email subject “Your full name_Job title_FPT2023”.
- Or talk to our Recruiters on Telegram: @Scarlett_150489 @anhpt_32.

**[Kyber Network] Product team:**

1. Customer Support Specialist - South America
2. Product UI UX Designer - HN/HCMC

**[Kyber Network] Marketing team:**

1. Community Lead - HN/HCMC
2. Community Intern - HN/HCMC
3. Social Media/Content Intern - HN/HCMC

**[Kyber Network] Business Development:**

1. BD Intern (GameFi) - HN/HCMC/Anywhere

**[Kyber Ventures]**

1. Fullstack Engineer - HN
2. Solution Architect - HN
3. Investment Analyst - HN/HCMC

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# The future and necessity of decentralization

- **The potential of decentralization:**
  - Create transparency, ensure security and resist centralized control
  - Accelerating the development of new technological solutions
- **Opportunities for the young generation:**
  - Learn and hone skills in blockchain and decentralized technology
  - Take advantage of career opportunities in blockchain, DeFi, GameFi related companies and organizations
- **Future trends:**
  - Strong growth of decentralized products and services
  - The combination of blockchain technology and other fields such as AI, IoT, AR/VR to create a comprehensive, efficient and transparent solution

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# Thank you