L28: Lab – NFT Valuation

Module C: NFTs & Digital Assets

Blockchain & Cryptocurrency Course

December 2025

By the end of this lab, you will be able to:

- Apply a comprehensive due diligence framework to NFT projects
- Identify critical red flags and scam indicators
- Conduct systematic rarity analysis and trait valuation
- Prepare professional investment recommendation reports
- Synthesize all Module C concepts into practical evaluation

Lab Overview

Final Capstone Lab: Comprehensive NFT project evaluation

Activities:

1. Due diligence checklist development
2. Multi-dimensional project analysis
3. Red flag identification and risk scoring
4. Comparative collection analysis
5. Investment recommendation report

Deliverable: 5-page investment memo on selected NFT collection

Skills Applied:

- NFT technology assessment (L21-22)
- Marketplace analysis (L23-24)
- Category-specific valuation (L25-27)

8-Pillar Evaluation Model:

1. **Technology & Infrastructure** (L21-22)
2. **Marketplace Presence & Liquidity** (L23-24)
3. **Community & Social Signals** (L25)
4. **Team & Governance**
5. **Utility & Roadmap**
6. **Rarity & Distribution**
7. **Financial Metrics**
8. **Legal & Regulatory Compliance** (L27)

Scoring: Each pillar scored 0-10, total score out of 80

Pillar 1: Technology & Infrastructure

Key Questions:

- Is the smart contract verified on Etherscan?
- Does it use standard ERC-721 or ERC-1155 (or custom)?
- Is metadata stored on IPFS, Arweave, or centralized server?
- Is the `tokenURI` immutable or mutable?
- Are images pinned with reputable service?
- Are there any smart contract security audits?
- Is the contract ownership renounced?

Scoring (0-10):

- 10: Verified, standard, IPFS/Arweave, immutable, audited, renounced
- 5: Verified, custom contract, IPFS, some mutability
- 0: Unverified or HTTP metadata or active admin control

Pillar 2: Marketplace Presence & Liquidity

Key Metrics:

- Floor price (ETH) and stability over 30 days
- 7-day trading volume (ETH)
- Number of unique buyers in past 30 days
- Percentage of collection listed for sale
- Average sale price vs. floor price (premium analysis)
- Presence on multiple marketplaces (OpenSea, Blur, etc.)
- Wash trading indicators (volume vs. unique traders)

Scoring (0-10):

- 10: ¿10% listed, daily sales, ¿100 unique buyers/month, multi-platform
- 5: 5-10% listed, weekly sales, 20-100 buyers/month
- 0: ¡2% listed, ¡5 sales/month, ¡10 buyers (illiquid)

Pillar 3: Community & Social Signals

Evaluation Criteria:

- Twitter followers and engagement rate
- Discord members and daily active users
- Reddit/Telegram community presence
- Organic vs. bot followers (check engagement ratio)
- Influencer and celebrity holders
- Community sentiment (bullish, neutral, bearish)
- Recent communication frequency (active vs. silent)

Scoring (0-10):

- 10: ¿50k Twitter, ¿10k Discord, daily updates, high engagement
- 5: 10-50k Twitter, 2-10k Discord, weekly updates
- 0: ¡5k Twitter, inactive Discord, no recent updates (dead community)

Pillar 4: Team & Governance

Key Questions:

- Is the team doxxed (real identities public)?
- What is the team's track record (prior projects)?
- Is there a DAO or governance structure?
- What percentage of supply does the team hold?
- Have there been any controversies or rug pulls?
- Are advisors or investors credible (VCs, known figures)?

Scoring (0-10):
- 10: Fully doxxed, proven track record, ¡10% team holdings, DAO
- 5: Pseudonymous but credible, 10-20% team holdings
- 0: Anonymous, no track record, ¿30% team holdings (rug risk)

Utility Categories:

- **IP Rights:** Commercial usage rights (BAYC model)
- **Ecosystem Access:** Token-gated content, events, products
- **Governance:** Voting on project decisions
- **Yield:** Staking rewards or passive income
- **Metaverse:** Integration with virtual worlds
- **Gaming:** Playable characters or in-game items

Roadmap Execution:

- Have past milestones been delivered on time?
- Are future goals realistic and specific?
- Is the roadmap vague or overpromising?

Scoring (0-10):

- 10: Multiple utility streams, strong roadmap execution
- 5: Some utility, mixed execution
- 0: No utility beyond speculation, failed roadmap

Pillar 6: Rarity & Distribution

Rarity Analysis:

- Use rarity.tools or similar to rank NFTs
- Identify rarest traits (top 5% frequency)
- Check if rarity premium exists (rare items sell for higher multiples)
- Analyze trait distribution (balanced vs. skewed)

Holder Distribution:

- Unique holders / Total supply ratio (target ¿60%)
- Top 10 holders ownership percentage (target ¡20%)
- Whale concentration (any holder with ¿10%?)
- Team and founder holdings

Scoring (0-10):

- 10: Clear rarity structure, ¿70% holder ratio, no whales
- 5: Moderate rarity, 50-70% holder ratio
- 0: No rarity premium, ¡40% holder ratio (concentrated)

Pillar 7: Financial Metrics

Key Calculations:

1. **Market Cap:** Floor Price * Total Supply
2. **Volume/MCap Ratio:** 30d Volume / Market Cap (liquidity)
3. **Mint vs. Floor:** Floor price relative to original mint
4. **ATH Distance:** Current floor vs. all-time high
5. **Holder ROI:** Average holder return (current floor vs. avg buy)

Example:

- Floor: 2 ETH, Supply: 10,000 = Market Cap 20,000 ETH
- 30d Volume: 1,000 ETH / 20,000 ETH = 5% (moderate liquidity)
- Mint: 0.08 ETH, Floor: 2 ETH = 25x return (strong)

Scoring (0-10):

- 10: High liquidity, strong mint ROI, near ATH
- 5: Moderate liquidity, breakeven mint ROI
- 0: Illiquid, below mint price (underwater holders)

Pillar 8: Legal & Regulatory Compliance

Key Questions:

- Are IP rights clearly defined in legal terms?
- Does the project have Terms of Service?
- Is there a legal entity (DAO LLC, foundation)?
- Are there potential securities law issues (Howey Test)?
- Does the project face regulatory scrutiny?
- Are there trademark or copyright disputes?

Scoring (0-10):

- 10: Clear IP rights, legal entity, compliant, no disputes
- 5: Some legal clarity, no major issues
- 0: Vague IP, no legal structure, securities risk, ongoing lawsuits

Critical Red Flags (Automatic Disqualification):

1. **Unverified contract:** Cannot audit code
2. **HTTP metadata:** Centralized, loss risk
3. **Team holds ¿50%:** Dump risk
4. **No community activity:** Dead project
5. **Zero sales in 30 days:** Illiquid
6. **Suspected rug pull history:** Team scammed before

Warning Flags (Reduce Score):

- Mutable `tokenURI` (metadata can change)
- High team holdings (20-50%)
- Failed roadmap milestones
- Wash trading indicators
- Celebrity pump without substance

Rule: 2+ critical red flags = DO NOT INVEST

Activity 1: Select NFT Collection

Task: Choose a collection for comprehensive analysis

Selection Criteria:
- Floor price ¿0.5 ETH (serious project)
- Total supply ¿1,000 items (scalable)
- 30-day volume ¿10 ETH (some liquidity)
- Active social media (recent posts within 7 days)

Recommended Categories:
- PFP collections (e.g., Azuki, Doodles, Clone X)
- Generative art (e.g., Art Blocks projects)
- Gaming NFTs (e.g., Parallel, Gods Unchained)
- 1/1 art collection (e.g., artist series on SuperRare)

Avoid: Collections with obvious red flags (for learning purposes, analyze real candidates)

Activity 2: Data Collection

Task: Gather all necessary data for 8-pillar analysis

Data Sources:

- **OpenSea:** Floor, volume, holders, listings
- **Etherscan:** Contract verification, metadata URI, transactions
- **rarity.tools:** Rarity rankings and trait distribution
- **Twitter/Discord:** Community size and engagement
- **Project website:** Roadmap, team, utility
- **Nansen/Dune:** Whale holdings, wash trading analysis

Create Data Sheet:

- Spreadsheet with all metrics per pillar
- Screenshots of key evidence (contract, metadata, charts)

Activity 3: Pillar-by-Pillar Scoring

Task: Score each of the 8 pillars (0-10)

Scoring Process:
1. Review collected data for Pillar 1 (Technology)
2. Compare against scoring criteria (slide 4)
3. Assign score 0-10 with justification
4. Repeat for all 8 pillars
5. Calculate total score (out of 80)

Interpretation:
- 70-80: Excellent project, strong buy candidate
- 55-69: Solid project, acceptable risk
- 40-54: High risk, speculative
- <40: Avoid, too many weaknesses

Activity 4: Comparative Analysis

Task: Compare your selected collection to 2 competitors

Steps:

1. Identify 2 similar collections (same category, similar floor)
2. Score both competitors using same 8-pillar framework
3. Create comparison table with all scores
4. Analyze relative strengths and weaknesses
5. Determine which offers best value proposition

Example Comparison:

- Your collection: 62/80 (floor 2 ETH)
- Competitor A: 58/80 (floor 2.5 ETH) – Overvalued
- Competitor B: 67/80 (floor 1.8 ETH) – Undervalued

Conclusion: Competitor B may be better value

Activity 5: Risk Assessment

Task: Identify and quantify all risks

Risk Categories:

1. **Technology Risk:** Smart contract bugs, metadata loss
2. **Market Risk:** Liquidity dries up, floor price crashes
3. **Team Risk:** Abandonment, rug pull, mismanagement
4. **Regulatory Risk:** Securities classification, IP disputes
5. **Competition Risk:** Better projects emerge, market share loss

Risk Matrix:

- High Probability + High Impact = Critical Risk
- High Probability + Low Impact = Monitor
- Low Probability + High Impact = Contingency Plan
- Low Probability + Low Impact = Accept

Task: Articulate clear bull and bear cases

Bull Case (Why Buy):
- Strengths from 8-pillar analysis
- Undervalued relative to competitors
- Strong roadmap execution potential
- Growing community and ecosystem
- Catalysts (upcoming launches, partnerships)

Bear Case (Why Avoid):
- Weaknesses from 8-pillar analysis
- Overvalued relative to fundamentals
- Market saturation in category
- Regulatory uncertainty
- Critical dependencies (team, platform)

Balanced Thesis: Weight both cases, determine net conviction

Activity 7: Investment Recommendation

Task: Provide final recommendation with rationale

Recommendation Types:

1. **Strong Buy:** Score 70+, undervalued, low risk
2. **Buy:** Score 55-69, fair value, acceptable risk
3. **Hold:** Score 40-54, fair value, monitoring needed
4. **Sell/Avoid:** Score ¡40 or critical red flags

Investment Parameters:

- Recommended position size (e.g., 1-5% of portfolio)
- Target entry price (floor or below)
- Stop-loss (e.g., 30% below entry)
- Time horizon (short-term flip vs. long-term hold)
- Exit strategy (take profit at X% gain or milestones)

Lab Report Structure

5-Page Investment Memo Format:

Page 1: Executive Summary
- Collection name, category, floor price
- Overall score (X/80) and recommendation
- 3-sentence investment thesis

Page 2-3: 8-Pillar Analysis
- Score and justification for each pillar
- Key data points and evidence

Page 4: Comparative Analysis & Risk Assessment
- Comparison table with competitors
- Risk matrix with mitigation strategies

Page 5: Investment Recommendation
- Bull/bear cases, final recommendation, parameters

Case Study Example: Azuki Analysis

Collection: Azuki (10,000 anime PFPs)

Quick 8-Pillar Scores:
1. Technology: 9/10 (verified, IPFS, immutable)
2. Marketplace: 8/10 (2.5 ETH floor, daily volume 50+ ETH)
3. Community: 7/10 (300k Twitter, 100k Discord, active)
4. Team: 5/10 (pseudonymous, controversy over Elementals launch)
5. Utility: 6/10 (IP rights, anime brand, mixed roadmap)
6. Rarity: 8/10 (clear rarity, 75% holder ratio)
7. Financial: 7/10 (2.5 ETH floor vs. 1 ETH mint, moderate liquidity)
8. Legal: 7/10 (clear IP, no major disputes)

Total: 57/80 – HOLD/BUY (acceptable risk, fair value)

Analytical Errors:

1. **Overweighting hype:** Celebrity endorsements $\neq$ fundamentals
2. **Ignoring liquidity:** High floor but no buyers $=$ trap
3. **Recency bias:** Recent pump does not mean sustainable growth
4. **Confirmation bias:** Seeking data that supports pre-existing opinion
5. **Anchoring:** Fixating on ATH or mint price (irrelevant)
6. **FOMO:** Buying at peak hype without analysis

Best Practices:

- Base analysis on objective data, not emotions
- Validate social metrics (bots vs. real engagement)
- Always check smart contract and metadata
- Compare to fundamentals, not just price action

Blockchain Data Analysis:

Using Dune Analytics:

- Unique minters vs. current holders (turnover rate)
- Average holding period (diamond hands vs. flippers)
- Transfer patterns (wash trading detection)
- Whale accumulation or distribution

Using Nansen:

- Smart Money labels (which wallets are buying?)
- Token God Mode (track specific NFT history)
- NFT Paradise (collection-level analytics)

Key Insight: On-chain data reveals true investor behavior (not just social hype)

1. Comprehensive NFT evaluation requires 8-pillar framework (technology, liquidity, community, team, utility, rarity, financials, legal)
2. Critical red flags (unverified contract, HTTP metadata, team dump risk) disqualify projects
3. Comparative analysis reveals relative value vs. competitors
4. Risk assessment must balance probability and impact across categories
5. Investment recommendations require clear bull/bear thesis and parameters
6. On-chain metrics validate or contradict social hype signals

Final Lab Assignment

Deliverable: 5-page investment memo on selected NFT collection

Requirements:

1. Executive summary with overall score and recommendation
2. Detailed 8-pillar analysis with evidence
3. Comparative analysis with 2 competitors
4. Risk assessment matrix
5. Investment recommendation with parameters
6. All data sources cited, screenshots included

Grading Criteria:

- Data accuracy and completeness (30%)
- Analytical rigor and objectivity (30%)
- Investment thesis clarity (20%)
- Report professionalism (20%)

Discussion Questions

1. Which pillar in the 8-pillar framework is most important for long-term value?
2. Can NFT projects with low scores still succeed through community strength alone?
3. How should investors balance quantitative metrics vs. qualitative judgment?
4. What role does personal risk tolerance play in NFT investment decisions?
5. How can the framework be adapted for different NFT categories (art, gaming, RWA)?

Module C: NFTs & Digital Assets – Complete

Topics Covered:

- NFT technology deep dive (ERC-721, metadata, IPFS)
- Marketplaces and trading dynamics (OpenSea, Blur, royalties)
- Digital art and collectibles (1/1, generative, PFPs)
- Gaming NFTs and metaverse (P2E, virtual land)
- Real-world asset tokenization (RWA, securities, BlackRock)
- Practical valuation and due diligence frameworks

Skills Developed:

- Technical NFT analysis (smart contracts, storage)
- Market analysis (floor price, volume, liquidity)
- Community and team evaluation
- Systematic investment decision-making