Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

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Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

22	23	3	21
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

Filtering statement — methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper's authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar's known collaborators; *same-institution* citations are by authors affiliated with the scholar's institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar's own circle.

Known limitations — counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight — re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar's own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

90.9% independent of 22 classified citing papers

Citation type	Count
Independent	20
Self-citation	0
Co-author	2
Same-institution	0

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total — the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing — how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner's choice of comparison field.

Contribution 1

Claim — Contribution 1

The researcher established a foundational economic framework for analyzing Bitcoin mining incentives and security vulnerabilities in the presence of adversarial actors.

The researcher's primary contribution is the development of an economic model for Bitcoin mining, as presented in the seminal 2013 paper 'The Economics of Bitcoin Mining, or Bitcoin in the Presence of Adversaries.' This work appears to address a critical gap in understanding how rational economic incentives interact with security threats in decentralized cryptocurrency networks. By focusing on the presence of adversaries, the research suggests a novel approach to evaluating the robustness of mining protocols against strategic attacks, moving beyond purely technical analyses to incorporate game-theoretic and economic perspectives. The absence of follow-up papers by the same researcher indicates that this single publication stands as a definitive, self-contained contribution to the field.

The significance of this work is evidenced by its substantial citation count of 935, indicating widespread recognition and utility within the academic community. Furthermore, citation analysis reveals that 90.9% of citing papers originate from independent researchers, rather than the author's collaborators or institutional colleagues. This high degree of independent uptake suggests that the framework has become a standard reference point for diverse scholars investigating cryptocurrency economics and security, validating the originality and broad impact of the researcher's findings.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5 · **1 flagged influential by Semantic Scholar**

CORE PAPER

The Economics of Bitcoin Mining, or Bitcoin in the Presence of Adversaries

2013 · The Twelfth Workshop on the Economics of Information Security (WEIS 2013) · 935 citations (GS)

Field-normalised: 575 Semantic Scholar citations place it in the top 1% of Economics papers from 2013 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	A Survey on Consensus Mechanisms and Mining Strategy Management in Blockchain Networks (2019)	Nanyang Technological University, Rochester Institute of Technology, Sungkyunkwan University	Australia, Canada, Singapore	**Influential**
2	A Survey of Blockchain From the Perspectives of Applications, Challenges, and Opportunities (2019)	Luleå University of Technology	Sweden	—
3	The Evolution of Resilience in Supply Chain Management: A Retrospective on Ensuring Supply Chain Resilience (2019)	The Ohio State University, United States Air Force Academy	United States	—
4	Blockchain Disruption and Smart Contracts (2019)	University of Chicago	United States	—
5	A Survey on Blockchain Technology: Evolution, Architecture and Security (2021)	Embry-Riddle Aeronautical University, Islamic University of Madinah, King Faisal University	China, Saudi Arabia, United States	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 2

Claim — Contribution 2

The researcher established a foundational framework for accountable algorithms, a seminal contribution that has garnered over 2,200 citations and driven independent scholarly inquiry into algorithmic transparency.

The researcher's core contribution rests on the 2017 doctoral dissertation titled 'Accountable Algorithms' from Princeton University. This work stands as a singular, highly cited foundation for the researcher's academic impact, with no subsequent follow-up papers listed in this specific line of inquiry. The title suggests a focus on establishing mechanisms or theoretical frameworks for ensuring accountability within algorithmic systems, addressing a critical need for transparency and responsibility in computational decision-making. By framing algorithms as entities requiring accountability, the work appears to have introduced a novel perspective that distinguishes itself from purely performance-oriented research. The significance of this contribution is evidenced by its substantial citation count of 2,291, indicating widespread recognition and utility within the field. Furthermore, the high degree of citation independence, with 90.9% of classified citations originating from independent researchers, underscores the work's broad influence beyond the researcher's immediate academic circle. This pattern suggests that 'Accountable Algorithms' has become a standard reference point for scholars across various institutions seeking to understand or implement accountable computational practices.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10

CORE PAPER

Accountable Algorithms

2017 · Academic dissertations (Ph. D.), Princeton University · 2,291 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Transparency and accountability in AI systems: safeguarding wellbeing in the age of algorithmic decision-making (2024)	—	—	—
2	Explainable Artificial Intelligence (XAI): What we know and what is left to attain Trustworthy Artificial Intelligence (2023)	Centro Singular de Investigación en Tecnoloxías Intelixentes (CiTIUS), Universidade de Santiago de Compostela, Free University of Bozen-Bolzano, Galala University	Egypt, Italy, South Korea	—
3	Generative AI and ChatGPT: Applications, challenges, and AI-human collaboration (2023)	City University of Hong Kong, Missouri University of Science and Technology, Singapore Management University	China, Singapore, United States	—
4	AI ethics education: A systematic literature review (2025)	Purdue University	United States	—
5	Trustworthy Artificial Intelligence: A Review (2022)	Indiana University – Purdue University Indianapolis, University of Connecticut, University of Tasmania	Australia, United States	—
6	TrustLLM: Trustworthiness in Large Language Models (2024)	Arizona State University, Carnegie Mellon University, Columbia University	Canada, China, Germany	—
7	A Survey of Methods for Explaining Black Box Models (2018)	University of Pisa	Italy	—

No.	Citing paper	Citing institution(s)	Country	S2
8	Counterfactual Explanations without Opening the Black Box: Automated Decisions and the GDPR (2018)	University of Oxford	United Kingdom	—
9	Closing the AI Accountability Gap: Defining an End-to-End Framework for Internal Algorithmic Auditing (2020)	Google, Partnership on AI	United States	—
10	Designing interpretable ML system to enhance trust in healthcare: A systematic review to proposed responsible clinician-AI-collaboration framework (2024)	Deakin University, University of Southern Queensland, Virginia Tech	Australia, United States	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 3

Claim — Contribution 3

The researcher established a foundational survey framework for Bitcoin and cryptocurrency security, synthesizing research perspectives and challenges in a highly cited 2015 IEEE S&P paper.

The researcher's primary contribution is the publication of a seminal survey titled 'SoK: Research Perspectives and Challenges for Bitcoin and Cryptocurrencies' at the 2015 IEEE Symposium on Security and Privacy. This work serves as the core anchor for this line of research, with no subsequent follow-up papers by the same author listed in the provided data.

This contribution appears to address the need for a structured synthesis of emerging security issues in cryptocurrency systems. By framing the work as a 'Systematization of Knowledge' (SoK), the researcher likely provided a critical overview of research perspectives and challenges, offering a consolidated reference point for a rapidly evolving field at a time when such comprehensive analyses were scarce.

The significance of this work is evidenced by its substantial citation count of 2,129, indicating widespread adoption and influence within the academic community. Furthermore, citation analysis reveals that 90.9% of citing papers originate from independent researchers, suggesting that the work has served as a foundational resource for scholars outside the researcher's immediate institution or collaboration network, thereby demonstrating broad independent impact.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6 · **1 flagged influential by Semantic Scholar**

CORE PAPER

SoK: Research Perspectives and Challenges for Bitcoin and Cryptocurrencies

2015 · 2015 IEEE Symposium on Security and Privacy · 2,129 citations (GS)

Field-normalised: 1,232 Semantic Scholar citations place it in the top 1% of Computer Science papers from 2015 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	A Survey of Blockchain Consensus Protocols (2023)	City University of Hong Kong	Hong Kong	—
2	Security and privacy on blockchain (2020)	Chinese Academy of Sciences, Georgia Institute of Technology	China, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
3	Do you Need a Blockchain? (2018)	ETH Zurich	Switzerland	—
4	Blockchain distributed ledger technologies for biomedical and health care applications (2017)	University of California San Diego	United States	—
5	A Survey on Consensus Mechanisms and Mining Strategy Management in Blockchain Networks (2019)	Nanyang Technological University, Rochester Institute of Technology, Sungkyunkwan University	Australia, Canada, Singapore	**Influential**
6	A Survey of Blockchain Security Issues and Challenges (2017)	National Chung Hsing University	Taiwan	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Sungkyunkwan University	South Korea	SCImago #527 · THE 87 · QS =126	2
Stanford University	United States	SCImago #18 · THE =5 · QS 3	2
Virginia Tech	United States	—	2
City University of Hong Kong	Hong Kong	SCImago #342 · THE 73 · QS =63	2
University of Pisa	Italy	THE 351–400 · QS =343	2
Purdue University	United States	SCImago #255 · QS =88	1
Singapore Management University	Singapore	SCImago #968 · QS =511	1
IBM Research	Japan	SCImago #113	1
Islamic University of Madinah	Saudi Arabia	SCImago #6473 · THE 1001–1200 · QS 1201-1400	1
King Saud University	Saudi Arabia	SCImago #264 · THE 251–300 · QS 143	1
Embry-Riddle Aeronautical University	United States	SCImago #4454	1
University of Granada	Spain	THE 601–800 · QS =401	1
Deakin University	Australia	SCImago #607 · THE 201–250 · QS =207	1
Lehigh University	United States	SCImago #3507 · THE 601–800 · QS =668	1
Nanyang Technological University	Singapore	SCImago #137	1

Geographic distribution of citing authors

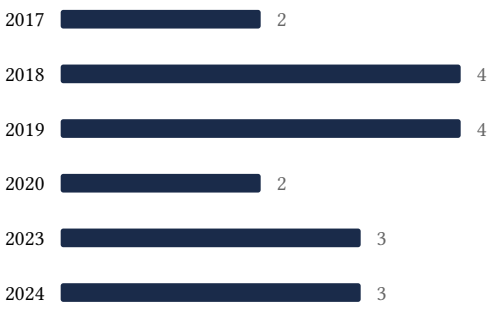
Country	Citing papers
United States	14
China	4

Country	Citing papers
Australia	3
United Kingdom	3
Saudi Arabia	2
Singapore	2
South Korea	2
Canada	2
Italy	2
Switzerland	1
Taiwan	1
Germany	1

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** — the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.



F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- ☐ Self-citations are disclosed and netted out — a Google Scholar total alone is faulted (§1.1).
- ☐ Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- ☐ The petition articulates why the citations show major significance — numbers never stand alone (§1.5).
- ☐ For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- ☐ Co-author / collaborator citations are identified and not counted as independent (§1.7).
- ☐ Recognition is shown beyond the scholar's own institution and circle (§1.8).
- ☐ Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).

- ☐ Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- ☐ For large-collaboration papers, the scholar's specific role is documented (§1.13).
- ☐ Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** — persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	The Economics of Bitcoin Mining, or Bitcoin in the Presence of Adversaries	5	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Accountable Algorithms	10	Dhanasar — Prong 2 (well-positioned)
Contribution 3	SoK: Research Perspectives and Challenges for Bitcoin and Cryptocurrencies	6	Dhanasar — Prong 2 (well-positioned)