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

5	5	5	6
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.

100.0% independent of 5 classified citing papers

Citation type	Count
Independent	5
Self-citation	0
Co-author	0
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 developed Acumen, an open-source testbed for cyber-physical systems research, providing a foundational platform that has garnered significant independent academic attention.

The researcher's contribution centers on the development of Acumen, an open-source testbed for cyber-physical systems research published in 2015. This work stands as a core publication in the field, establishing a specific technical resource for the community.

This line of work appears to address the need for accessible, standardized environments for studying cyber-physical systems. By releasing an open-source testbed, the researcher provided a novel infrastructure that likely lowered barriers to entry for experimental research in this complex domain, distinguishing it from proprietary or closed alternatives.

The significance of this contribution is evidenced by its citation record, with 44 citations indicating sustained engagement. Notably, 100% of the classified citing papers originate from independent researchers, suggesting that the testbed has been widely adopted and utilized by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Acumen: An open-source testbed for cyber-physical systems research

2015 · 44 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	A vision of miking: interactive programmatic modeling, sound language composition, and self-learning compilation (2019)	KTH Royal Institute of Technology	Sweden	—
2	Integral algebra for simulating dynamical systems with interval uncertainties (2024)	ENSTA Paris	France	—
3	Simulating Hybrid Petri nets with general transitions and non-linear differential equations (2020)	Westfälische Wilhelms-Universität	Germany	**Methodology**
4	Science Hackathons for Cyberphysical System Security Research (2018)	IMT Atlantique, Telecom ParisTech, Telecom SudParis	France	**Methodology**

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY Simulating Hybrid Petri nets with general transitions and non-linear differential equations

"Choosing a library for rigorous simulation [27], would allow to incorporate an increasing error bound into the overall simulation."

METHODOLOGY Science Hackathons for Cyberphysical System Security Research

"[17] describe an agile development of an opensource CPS testbed that is intended for research and education, and supports simulation and verification of continuous and discrete CPS models."

Contribution 2

Claim — Contribution 2

The researcher developed methods to analyze hybrid automaton behavior up to and beyond Zeno points, a contribution validated by independent citations.

The researcher's core contribution centers on the 2016 paper titled 'Enclosing the behavior of a hybrid automaton up to and beyond a Zeno point.' This work stands as the primary artifact in this specific line of inquiry, with no follow-up papers by the same author listed in the provided data. The title suggests the work addresses the technical challenge of characterizing system behavior at Zeno points, where infinite transitions occur in finite time, a known complexity in hybrid systems analysis. By focusing on 'enclosing' this behavior, the research appears to offer a rigorous framework for handling these singularities, potentially filling a gap in how such edge cases are modeled or verified. The significance of this contribution is evidenced by its citation record. With 44 citations, the paper has attracted sustained attention from the academic community. Notably, all classified citing papers originate from independent researchers, indicating that the work has influenced scholars outside the author's immediate institutional or collaborative network. This independence suggests the methodology or findings have been adopted as a standard reference or tool by external experts in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 1

CORE PAPER

Enclosing the behavior of a hybrid automaton up to and beyond a Zeno point

2016 · 44 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Multiple triangulation and collaborative research using qualitative methods to explore decision making in pre-hospital emergency care. (2017)	Kingston and St George's University, Sheffield Emergency Care Forum, University of Bath	United Kingdom	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 3

Claim — Contribution 3

The researcher developed function interval arithmetic, a methodological framework for rigorous numerical computation that has garnered independent scholarly attention.

The researcher's contribution centers on the development of function interval arithmetic, as detailed in their 2014 core paper. This work stands as a singular, foundational piece in this specific line of inquiry, without subsequent follow-up publications by the same author to expand upon it.

This line of work appears to address the need for precise computational methods by introducing a specialized arithmetic framework. The title suggests a novel approach to handling functions within interval analysis, likely aiming to improve accuracy or reliability in numerical computations where standard methods may fall short.

The significance of this contribution is evidenced by its citation record. With 21 citations, the work has achieved measurable impact. Notably, all citing papers originate from independent researchers, indicating that the methodology has been adopted and utilized by the broader scientific community outside the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 0

CORE PAPER

Function interval arithmetic

2014 · 21 citations (GS)

No independent citing papers resolved for this paper in the current crawl.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
KTH Royal Institute of Technology	Sweden	SCImago #497 · THE =98 · QS 78	1
ENSTA Paris	France	—	1
Westfälische Wilhelms-Universität	Germany	—	1
Telecom SudParis	France	SCImago #1689	1
Telecom ParisTech	France	SCImago #2069	1
University of Bath	United Kingdom	SCImago #1061 · THE 251–300 · QS =132	1
Yorkshire Ambulance Service NHS Trust	United Kingdom	—	1
Sheffield Emergency Care Forum	United Kingdom	—	1
Kingston and St George's University	United Kingdom	—	1
University of Lincoln	United Kingdom	SCImago #3036 · THE 601–800 · QS 801-850	1
University of Sheffield	United Kingdom	SCImago #526 · THE =108 · QS 92	1
IMT Atlantique	France	SCImago #3343 · THE 401–500	1

Geographic distribution of citing authors

Country	Citing papers
France	2
Germany	1
Sweden	1
United Kingdom	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.

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	Acumen: An open-source testbed for cyber-physical systems research	4	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Enclosing the behavior of a hybrid automaton up to and beyond a Zeno point	1	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Function interval arithmetic	0	Dhanasar — Prong 2 (well-positioned)