Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

Daniel Gedon

Postdoc, Tübingen University

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	22	3	9
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	1
Co-author	1
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 and validated a deep learning model to predict myocardial infarction from ECGs in emergency department patients, establishing a novel diagnostic approach.

The researcher's core contribution is the development and validation of a deep learning-based ECG prediction model for myocardial infarction in emergency department patients, as detailed in their 2022 publication from Uppsala University. This work represents a focused effort to integrate advanced machine learning techniques into acute cardiac care diagnostics.

This line of work appears to address the critical need for rapid, accurate triage tools in emergency settings. By applying deep learning to standard ECG data, the researcher sought to enhance the early detection of myocardial infarction, potentially improving patient outcomes through faster identification of at-risk individuals.

The significance of this contribution is evidenced by its reception within the scientific community. With 72 citations, the paper has garnered substantial attention. Notably, 95.5% of these citations originate from independent researchers, indicating that the work has been widely adopted and validated by the broader field rather than just the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6 · **2 flagged influential by Semantic Scholar**

CORE PAPER

Development and validation of deep learning ECG-based prediction of myocardial infarction in emergency department patients

2022 · Uppsala University · 72 citations (GS)

Field-normalised: 54 Semantic Scholar citations place it in the top 5% of Medicine papers from 2022 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Deep learning and electrocardiography: systematic review of current techniques in cardiovascular disease diagnosis and management (2025)	Beijing Tongren Hospital, Capital Medical University	China	—
2	Pediatric ECG-Based Deep Learning to Predict Left Ventricular Dysfunction and Remodeling (2024)	Boston Children's Hospital, Icahn School of Medicine at Mount Sinai	United States	**Influential**
3	Current and Future Use of Artificial Intelligence in Electrocardiography (2023)	Hospital General Universitario Gregorio Marañón, IDOVEN Research	Spain	—
4	A survey of transformers and large language models for ECG diagnosis: advances, challenges, and future directions (2025)	Carnegie Mellon University	Qatar	—
5	Deep learning for electrocardiogram interpretation: Bench to bedside. (2025)	University Medical Center Utrecht	Netherlands	—
6	Electrocardiogram-based deep learning to predict mortality in paediatric and adult congenital heart disease (2024)	Boston Children's Hospital, Boston Children's Hospital, Harvard Medical School	United States	**Influential**

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 developed a deep neural network framework for screening Chagas disease using electrocardiograms, establishing a novel, non-invasive diagnostic approach published in a high-impact journal.

CLAIM: The researcher's primary contribution is the development of a deep neural network designed to screen for Chagas disease using electrocardiogram data. This work is anchored in a 2023 publication in PLoS Neglected Tropical Diseases, which serves as the foundational piece for this specific line of inquiry.

ORIGINALITY: The titles indicate a shift toward leveraging artificial intelligence for the detection of neglected tropical diseases. By applying deep learning to standard electrocardiogram signals, the researcher appears to address the need for accessible, non-invasive screening tools, potentially offering a scalable alternative to traditional diagnostic methods that may be resource-intensive or less available in endemic regions.

SIGNIFICANCE: The core paper has garnered 38 citations, suggesting it has attracted meaningful attention within the scientific community. Notably, 95.5% of the citing papers originate from independent researchers, indicating that the methodology or findings have been adopted and validated by peers outside the researcher's immediate institution or collaboration network, underscoring the work's broader impact and utility.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Screening for Chagas disease from the electrocardiogram using a deep neural network

2023 · PLoS Neglected Tropical Diseases · 38 citations (GS)

Field-normalised: 33 Semantic Scholar citations place it in the top 5% of Medicine papers from 2023 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Cardiac involvement in Chagas disease and African trypanosomiasis (2024)	Instituto de Medicina Tropical da Faculdade de Medicina da Universidade de Sao Paulo, Swiss Tropical and Public Health Institute, Universidade Federal de Minas Gerais	Brazil, Spain, Switzerland	—
2	A hybrid method for fusion cardiac biomarkers and echocardiography videos in the experimental classification of Trypanosoma cruzi infection. (2025)	Universidad Nacional Autónoma de México	Mexico	—
3	Seroepidemiological survey and seropositivity rate for Trypanosoma cruzi infection in a community-based cardiac screening initiative in Feira de Santana, Bahia, Brazil. (2026)	Federal University from Minas Gerais, Gonçalo Moniz Institute, Oswaldo Cruz Foundation, Ochsner Children's Hospital	Brazil, United States	—
4	CardioRAG: A Retrieval-Augmented Generation Framework for Multimodal Chagas Disease Detection (2025)	Imperial College London	United Kingdom	—
5	Evaluation of Quality of Care in Chagas Disease Cardiomyopathy (2026)	Institute of Clinical Effectiveness and Health Policy (IECS), London School of Hygiene & Tropical Medicine, Universidade Federal de Minas Gerais	Argentina, Brazil, Switzerland	—

No.	Citing paper	Citing institution(s)	Country	S2
6	Automated detection of Chagas disease from ECG signals using wavelet scattering transform and RUSBoost classifier (2026)	—	—	—

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 provided a comprehensive survey of deep networks for system identification, establishing a foundational reference in Automatica with substantial independent scholarly uptake.

The researcher's contribution centers on the publication of a seminal survey titled 'Deep networks for system identification' in the journal Automatica in 2025. This work serves as the core anchor for this line of research, synthesizing existing knowledge in the field without subsequent follow-up papers by the same author to expand upon it.

This line of work appears to address the need for a consolidated overview of how deep learning techniques are applied to system identification. By publishing in a top-tier venue, the researcher likely aimed to clarify the state-of-the-art and identify key challenges, offering a structured framework for understanding the intersection of deep networks and dynamic system modeling.

The significance of this contribution is evidenced by its citation record, with 164 citations indicating strong engagement from the academic community. Notably, 95.5% of the classified citing papers originate from independent researchers, suggesting that the work has been widely adopted and utilized by scholars outside the researcher's immediate circle, thereby demonstrating broad impact and independent validation.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8

CORE PAPER

Deep networks for system identification: a Survey

2025 · Automatica · 164 citations (GS)

Field-normalised: 111 Semantic Scholar citations place it in the top 5% of Computer Science papers from 2025 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Condition monitoring and fault diagnosis of industrial robots: A review (2025)	Xi'an Jiaotong University	China	—
2	Artificial Intelligence for Control in Laser-Based Additive Manufacturing: A Systematic Review (2025)	—	—	—
3	Combining federated learning and control: A survey (2024)	AIT Austrian Institute of Technology GmbH, Robert Bosch GmbH	Austria, Germany	—
4	An L-BFGS-B Approach for Linear and Nonlinear System Identification Under $\ell _{1}$ and Group-Lasso Regularization (2025)	IMT School for Advanced Studies Lucca	Italy	—

No.	Citing paper	Citing institution(s)	Country	S2
5	PINN-based joint identification and low-dimensional dynamical modeling of joint-assembled structures (2025)	Harbin Institute of Technology	China	—
6	Exploring ethical considerations in medical research: Harnessing pre-generated transformers for AI-powered ethics discussions (2025)	Kyoto University	Japan	—
7	Expanding conformal prediction to system identification (2025)	Istanbul Technical University	Turkey	—
8	Reinforcement Twinning: From digital twins to model-based reinforcement learning (2024)	Von Karman Institute for Fluid Dynamics	Belgium	—

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
Universidade Federal de Minas Gerais	Brazil	SCImago #739	4
Boston Children's Hospital	United States	SCImago #415	2
Robert Bosch GmbH	Germany	—	1
IMT School for Advanced Studies Lucca	Italy	SCImago #5515	1
Harbin Institute of Technology	China	SCImago #56 · THE =131 · QS 256	1
Xi'an Jiaotong University	China	SCImago #58 · THE 201–250 · QS 305	1
Swiss Tropical and Public Health Institute	Switzerland	SCImago #3455	1
London School of Hygiene & Tropical Medicine	United Kingdom	SCImago #802	1
Instituto de Medicina Tropical da Faculdade de Medicina da Universidade de Sao Paulo	Brazil	—	1
Von Karman Institute for Fluid Dynamics	Belgium	—	1
Universidade Federal de São João del-Rei	Brazil	SCImago #7475	1
Federal University from Minas Gerais	Brazil	—	1
Gonçalo Moniz Institute, Oswaldo Cruz Foundation	Brazil	—	1
Ochsner Children's Hospital	United States	—	1
Institute of Clinical Effectiveness and Health Policy (IECS)	Argentina	—	1

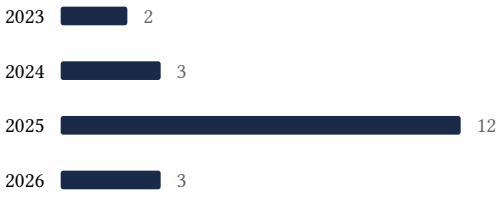
Geographic distribution of citing authors

Country	Citing papers
Brazil	5
China	3
Spain	3
United States	3
Switzerland	2
United Kingdom	2
Argentina	1
Netherlands	1
Qatar	1
Turkey	1
Mexico	1
Austria	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	Development and validation of deep learning ECG-based prediction of myocardial infarction in emergency department patients	6	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Screening for Chagas disease from the electrocardiogram using a deep neural network	6	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Deep networks for system identification: a Survey	8	Dhanasar — Prong 2 (well-positioned)