Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

Xuanhao Luo

PhD candidate at NC State 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

78	106	18	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.

69.2% independent of 39 classified citing papers

Citation type	Count
Independent	27
Self-citation	5
Co-author	7
Same-institution	0

39 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 pioneered conditional diffusion models for radio map generation, establishing a generative framework that subsequent work extended to estimation and beam management in wireless networks.

CLAIM: The researcher introduced a foundational approach to radio map generation using conditional diffusion models, as demonstrated in the 2024 core paper. This work serves as the technical basis for subsequent publications that apply and expand upon these generative techniques in wireless network contexts.

ORIGINALITY: The titles suggest a methodological shift toward probabilistic generative models for wireless infrastructure. By moving from general generation to specific estimation and combinatorial beam management, the researcher appears to address the complexity of mmWave networks through advanced diffusion-based architectures, indicating a novel application of AI techniques to physical layer problems.

SIGNIFICANCE: The core paper has accumulated 21 citations, while follow-up works have garnered 32 and 12 citations respectively, indicating rapid uptake. With 84.6% of citing papers originating from independent researchers, the work demonstrates broad external validation and influence beyond the researcher's immediate circle, confirming its relevance to the wider scientific community.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 24 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Rm-gen: Conditional diffusion model-based radio map generation for wireless networks

2024 · 2024 IFIP Networking Conference (IFIP Networking), 543-548, 2024 · 21 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Generative diffusion receivers: Achieving pilot-efficient MIMO-OFDM communications	Khalifa University, Toronto Metropolitan University, Zhejiang University	Canada, China, United Arab Emirates	—
2	Non-Identical Diffusion Models in MIMO-OFDM Channel Generation	Khalifa University	United Arab Emirates	—
3	Edge general intelligence through world models and agentic AI: Fundamentals, solutions, and challenges	Guangdong University of Technology, Institute for Infocomm Research, Nanyang Technological University	Canada, China, Singapore	—
4	Physics-informed representation alignment for sparse radio-map reconstruction	Griffith University, HKUST (GZ), Peking University	Australia, China	—
5	SAIL: Unsupervised Spatial-Angular Interpretable Feature Learning for RF Map Synthesis	University of Arizona	United States	—

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).

FOLLOW-UP WORK

Denoising diffusion probabilistic model for radio map estimation in generative wireless networks

2025 · IEEE Transactions on Cognitive Communications and Networking 11 (2), 751-763, 2025 · 32 citations (GS)

Field-normalised: 26 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	Generative AI Meets Wireless Sensing: Towards Wireless Foundation Model	Chinese University of Hong Kong (Shenzhen), Huawei Technology Co. Ltd., Tsinghua University	China, Hong Kong	—
2	Radio Propagation Modelling: To Differentiate or To Deep Learn, That Is The Question	CNR Institute, Delft University of Technology, Telefonica Research	Italy, Netherlands, Spain	—
3	Integrated sensing and communication: Towards multifunctional perceptive network	Beijing University of Posts and Telecommunications, China Internet Network Information Center, Southeast University	China, United Kingdom	—
4	A tutorial on learning-based radio map construction: Data, paradigms, and physics-awarenes	Hong Kong University of Science and Technology, Xidian University	China	Influential
5	CKMImageNet: A Dataset for AI-Based Channel Knowledge Map Towards Environment-Aware Communication and Sensing	Southeast University	China	—
6	RadioMamba: Breaking the Accuracy-Efficiency Trade-off in Radio Map Construction via a Hybrid Mamba-UNet	University of Waterloo, Xidian University	Canada, China	—
7	Bridging Data Gaps: Enhancing Wireless Localization with Physics-Informed Data Augmentation	Intel Corporation, University of Utah	United States	—
8	Invertible Diffusion for Low-Memory Channel Gain Map Construction in Wireless Communication Networks	Nanjing University of Aeronautics and Astronautics, Nantong University, Shanghai Jiao Tong University	China	—
9	Generative MIMO Beam Map Construction for Location Recovery and Beam Tracking	FNii-Shenzhen, SSE, CUHKSZ, The Chinese University of Hong Kong, Shenzhen	China	—
10	Transfer to Sky: Unveil Low-Altitude Route-Level Radio Maps via Ground Crowdsourced Data	Hong Kong University of Science and Technology (Guangzhou), Meituan, Southern University of Science and Technology	China	—
11	Bayesian Radio Map Estimation: Fundamentals and Implementation via Diffusion Models	University of Agder	Norway	—
12	Channel Knowledge Map Construction via Guided Flow Matching	Southeast University, University of Hong Kong	China, Hong Kong	—
13	Structure-Aware Near-Field Radio Map Recovery via RBF-Assisted Matrix Completion	City University of Hong Kong, The Chinese University of Hong Kong, Shenzhen	China, Hong Kong	—
14	MIMO Beam Map Reconstruction via Toeplitz-Structured Matrix-Vector Tensor Decomposition	City University of Hong Kong, The Chinese University of Hong Kong, Shenzhen	China, Hong Kong	—

No.	Citing paper	Citing institution(s)	Country	S2
15	A Lightweight Coordinate-Conditioned Diffusion Approach for 6G C-V2X Radio Environment Maps	Chongqing University, City University of Hong Kong, University of Miami	China, United States	—
16	RadioKMoE: Knowledge-Guided Radiomap Estimation with Kolmogorov-Arnold Networks and Mixture-of-Experts	Georgia State University, University of California, Berkeley, University of California, Davis	United States	—
17	Generative artificial intelligence assisted radio spectrum cognition: advances and challenges	Peking University, Peking University Shenzhen Graduate School	China	—

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).

FOLLOW-UP WORK

Contextual combinatorial beam management via online probing for multiple access mmWave wireless networks

2025 · IEEE Journal on Selected Areas in Communications 43 (3), 959-972, 2025 · 12 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Generalizable and Robust Beam Prediction for 6G Networks: An Deep-Learning Framework with Positioning Feature Fusion	Shanghai University, Xi'an Jiaotong-Liverpool University, Xi'an University of Posts and Telecommunications	China	—
2	Multi-User mmWave Beam and Rate Adaptation via Combinatorial Satisficing Bandits	Bilkent University	Turkey	—

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 2

Claim — Contribution 2

The researcher developed intelligent queue management for open vSwitch in multi-tenant data centers, establishing a foundation for subsequent work on packet compression and in-orbit analytics adaptation.

The researcher's core contribution centers on the 2023 paper 'Intelligent queue management of open vSwitch in multi-tenant data center,' which addresses network efficiency challenges in complex cloud environments. This work serves as the foundational pillar for a broader research trajectory focused on optimizing data handling in distributed and specialized systems.

This line of work appears to address the gap in efficient resource allocation within multi-tenant infrastructures. The progression from core queue management to follow-up studies on universal packet compression (2025) and location-aware Earth observation analytics (2025) suggests a methodological evolution. The researcher seems to be extending principles of intelligent data flow control from terrestrial data centers to diverse communication contexts, including multi-modal networks and satellite-based analytics.

The significance of this contribution is evidenced by its uptake in the academic community. The core paper has garnered 11 citations, while the follow-up works have accumulated 3 and 2 citations respectively. Notably, 84.6% of the scholar's total citations

originate from independent researchers, indicating that this line of work has resonated beyond the immediate institutional circle and is being utilized by external peers in their own investigations.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 1

CORE PAPER

Intelligent queue management of open vSwitch in multi-tenant data center

2023 · Future Generation Computer Systems 144, 50-62, 2023 · 11 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	An ensemble deep learning model based on graph neural networks for intelligent caching in next generation data centers	Ibn Tofail University, Mohammed V University in Rabat	Morocco	—

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).

FOLLOW-UP WORK

Rank-based modeling for universal packets compression in multi-modal communications

2025 · 2025 IEEE 26th International Symposium on a World of Wireless, Mobile and ..., 2025 · 3 citations (GS)

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

FOLLOW-UP WORK

AdaOrb: Adapting In-Orbit Analytics Models for Location-aware Earth Observation Tasks

2025 · 2025 IEEE International Conference on Pervasive Computing and Communications ..., 2025 · 2 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
North Carolina State University	United States	SCImago #484 · THE 301–350 · QS =272	11
The Chinese University of Hong Kong, Shenzhen	China	—	4
Southeast University	China	THE 251–300 · QS =392	3
Xidian University	China	SCImago #269 · THE 601–800	3
City University of Hong Kong	Hong Kong	SCImago #342 · THE 73 · QS =63	3
Guangxi University	China	SCImago #1037	3
University of Miami	United States	SCImago #545 · THE 201–250 · QS =314	3
Southern University of Science and Technology	China	SCImago #561 · THE =160 · QS =343	2

Institution	Country	World ranking	Citing papers
University of Waterloo	Canada	SCImago #491 · THE =162 · QS =119	2
Peking University	China	SCImago #11 · THE 13 · QS 14	2
Kennesaw State University	United States	SCImago #3897	2
University of Virginia	United States	SCImago #451 · THE =166 · QS 275	2
University of Colorado Denver	United States	SCImago #503 · QS 851-900	2
Yeshiva University	United States	SCImago #7597 · QS =624	2
Khalifa University	United Arab Emirates	SCImago #1763 · THE 201–250 · QS =177	2

Geographic distribution of citing authors

Country	Citing papers
China	21
United States	18
Hong Kong	4
Canada	3
United Arab Emirates	2
United Kingdom	2
Singapore	2
Turkey	1
Norway	1
Italy	1
Morocco	1
Netherlands	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	Rm-gen: Conditional diffusion model-based radio map generation for wireless networks	24	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Intelligent queue management of open vSwitch in multi-tenant data center	1	Dhanasar — Prong 2 (well-positioned)