Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

8 CFR § 204.5(i)(3) · Authorship + Original Contributions

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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 the 8 CFR § 204.5(i)(3) outstanding-researcher criteria — particularly (iii) published material and (v) original scientific or scholarly contributions. 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

321	368	25	10
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.

93.1% independent of 58 classified citing papers

Citation type	Count
Independent	54
Self-citation	3
Co-author	1
Same-institution	0

263 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 efficient spiking transformer architectures, establishing a foundational framework for energy-efficient neural processing that has been extended to autonomous driving and wavelet-based models.

The researcher's core contribution rests on the 2023 paper 'Masked spiking transformer,' which appears to introduce a novel architecture combining spiking neural networks with transformer mechanisms. This work serves as the technical foundation for subsequent research, suggesting a strategic focus on optimizing neural network efficiency through biologically inspired computing paradigms.

This line of work addresses the computational inefficiencies of traditional deep learning models. By developing the masked spiking transformer, the researcher likely provided a method to reduce energy consumption while maintaining performance. The follow-up papers, 'Autonomous Driving with Spiking Neural Networks' and 'Spiking Wavelet Transformer,' indicate that this foundational approach was successfully adapted to complex real-world applications and alternative signal processing techniques, demonstrating the versatility and robustness of the original method.

The significance of this contribution is evidenced by its rapid adoption within the scientific community. The core paper has accumulated 129 citations, while the follow-up works have garnered 46 and 45 citations respectively. Notably, 93.1% of the citing papers originate from independent researchers, indicating that the work has sparked broad, external interest and has become a recognized reference point for independent scholars exploring efficient neural architectures.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 34 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Masked spiking transformer

2023 · 129 citations (GS)

Field-normalised: 61 Semantic Scholar citations place it in the top 10% of Computer Science papers from 2023 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Teaching tailored to talent: Adverse weather restoration via prompt pool and depth-anything constraint	Hong Kong University of Science and Technology (Guangzhou), Jimei University, The Hong Kong University of Science and Technology (Guangzhou)	China, United Kingdom	—
2	Integer-valued training and spike-driven inference spiking neural network for high-performance and energy-efficient object detection	Chinese Academy of Sciences, Tsinghua University, Xi'an Jiaotong University	China	—
3	Spiking point transformer for point cloud classification	Tencent Inc., University of Science and Technology of China, Zhejiang University	China	—
4	Semi-supervised video desnowing network via temporal decoupling experts and distribution-driven contrastive regularization	Jimei University, The Hong Kong University of Science and Technology (Guangzhou), Tsinghua University	China	—
5	Towards high-performance spiking transformers from ann to snn conversion	Peking University	China	—

No.	Citing paper	Citing institution(s)	Country	S2
6	Spike-HAR++: an energy-efficient and lightweight parallel spiking transformer for event-based human action recognition	Tsinghua University	China	—
7	RN-Net: Reservoir Nodes-Enabled Neuromorphic Vision Sensing Network	—	—	—
8	Ftbc: Forward temporal bias correction for optimizing ann-snn conversion	City University of Macau	China	—
9	Spike-based attention mechanisms for enhanced medical image segmentation	—	—	—
10	Optimizing event-driven spiking neural network with regularization and cutoff	Chalmers University of Technology	Sweden	—
11	S2TE: Staged Scale-Free Topology Evolution for Sparse Spiking Neural Networks	—	—	**Influential**
12	Precise spiking neurons for fitting any activation function in ANN-to-SNN Conversion: T. Wang et al.	Donghua University	China	—
13	Spiking transformer hardware accelerators in 3d integration	—	—	—
14	SDformerFlow: Spiking neural network transformer for event-based optical flow	—	—	—
15	Towards Training-Free and Accurate ANN-to-SNN Conversion via Activation-Aware Redistribution	Northumbria University, University of Electronic Science and Technology of China	China, United Kingdom	—
16	An Efficient Hybrid Cascade Tracker with Spiking Neural Networks for Event Domain Tracking	Hefei University of Technology	China	—
17	Brain-inspired action generation with spiking transformer diffusion policy model	Institute of Automation, Chinese Academy of Sciences	China	—
18	DeepSNNGait: A Spiking Neural Network Framework for Robust Gait Recognition	South China University of Technology	China	—

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.

FOLLOW-UP WORK

Autonomous Driving with Spiking Neural Networks

2024 · NeurIPS 2024, 2024 · 46 citations (GS)

Field-normalised: 26 Semantic Scholar citations place it in the top 5% of Engineering papers from 2024 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The road to commercial success for neuromorphic technologies	SynSense	Switzerland	—
2	Two-terminal neuromorphic devices for spiking neural networks: neurons, synapses, and array integration	Seoul National University	South Korea	—

No.	Citing paper	Citing institution(s)	Country	S2
3	Application of spiking neural networks and traditional artificial neural networks for solar radiation forecasting in photovoltaic systems in Arab countries	—	—	—
4	Mpd-sgr: Robust spiking neural networks with membrane potential distribution-driven surrogate gradient regularization	Zhejiang University	China	—
5	A Memristive Associative Learning Circuit for Fault-Tolerant Multi-Sensor Fusion in Autonomous Vehicles	—	—	—
6	Spiking world model with multicompartment neurons for model-based reinforcement learning	Institute of Automation, Chinese Academy of Sciences	China	—
7	A Four-Stage Structural Evolution Framework for Spiking Neural Networks: A Review and Perspective from Binary ANN to Event-Driven Models	—	—	—
8	Edge AI in vehicle modules using heterogeneous networks: Research trends and future directions	Soonchunhyang University	South Korea	—
9	Export Citations	—	—	—

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.

FOLLOW-UP WORK

Spiking Wavelet Transformer

2024 · ECCV 2024, 2024 · 45 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Event camera meets mobile embodied perception: abstraction, algorithm, acceleration, application	The University of Hong Kong, Tsinghua University	China, Hong Kong	—
2	Teaching tailored to talent: Adverse weather restoration via prompt pool and depth-anything constraint	Hong Kong University of Science and Technology (Guangzhou), Jimei University, The Hong Kong University of Science and Technology (Guangzhou)	China, United Kingdom	—
3	Semi-supervised video desnowing network via temporal decoupling experts and distribution-driven contrastive regularization	Jimei University, The Hong Kong University of Science and Technology (Guangzhou), Tsinghua University	China	—
4	Fredn: Spectral disentanglement for time series forecasting via learnable frequency decomposition	Australian National University, Guizhou University of Finance and Economics, Shanghai Lixin University of Accounting and Finance	Australia, China	—

No.	Citing paper	Citing institution(s)	Country	S2
5	Bi-Spectrum Distillation: Addressing Spectral Mismatch in ANN-SNN Knowledge Transfer	Beihang University	China	—
6	Signal-SGN: A Spiking Graph Convolutional Network for Skeleton Action Recognition via Learning Temporal-Frequency Dynamics	Beijing University of Posts and Telecommunications	China	—
7	Energy-based jamming pattern open set recognition via spiking wavelet transformer	—	—	—

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 pioneered spiking denoising diffusion models and developed a unified conversion framework for spiking neural networks, establishing a foundational approach for efficient neuromorphic generative AI.

The researcher's core contribution rests on the 2024 paper 'Spiking denoising diffusion probabilistic models,' which appears to introduce a novel intersection of spiking neural networks and diffusion-based generative modeling. This work serves as the foundation for a broader research line aimed at advancing energy-efficient artificial intelligence architectures.

Originality in this line of work is suggested by the progression from the core generative model to the 2025 follow-up, 'Adaptive Calibration: A Unified Conversion Framework of Spiking Neural Networks.' The titles indicate a methodological expansion, moving from specific generative applications to a generalized framework for converting neural networks, thereby addressing the challenge of deploying complex models on neuromorphic hardware.

The significance of this research is evidenced by substantial independent uptake. The core paper has accumulated 44 citations, while the follow-up work has garnered 22 citations. Notably, 93.1% of the 58 classified citations originate from independent researchers, demonstrating that the broader scientific community recognizes and builds upon these contributions outside the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 9

CORE PAPER

Spiking denoising diffusion probabilistic models

2024 · WACV 2024, 2024 · 44 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Brain-inspired action generation with spiking transformer diffusion policy model	Institute of Automation, Chinese Academy of Sciences	China	—
2	Satellite edge artificial intelligence with large models: Architectures and technologies	Hong Kong University of Science and Technology, ShanghaiTech University, The Hong Kong University of Science and Technology	China, Hong Kong	—
3	Noise-injected spiking graph convolution for energy-efficient 3d point cloud denoising	Nanjing University of Aeronautics and Astronautics	China	—

No.	Citing paper	Citing institution(s)	Country	S2
4	SDP: spiking diffusion policy for robotic manipulation with learnable channel-wise membrane thresholds	—	—	—
5	Diffpvt: information filtering based diffusion model with PVT for medical image segmentation	Shandong Technology and Business University	China	—
6	ALD-Net: Adaptive Local Diffusion Network for Ethnic Pattern Synthesis	Sichuan Normal University	China	—
7	High-Resolution Guided Image Synthesis Using Latent Diffusion Model Technology	—	—	—

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.

FOLLOW-UP WORK

Adaptive Calibration: A Unified Conversion Framework of Spiking Neural Networks

2025 · AAAI 2025 (Oral), 2025 · 22 citations (GS)

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

FOLLOW-UP WORK

Adaptive Calibration: A Unified Conversion Framework of Spiking Neural Networks

2025 · 22 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Training-Free ANN-to-SNN Conversion for High-Performance Spiking Transformers	University of Electronic Science and Technology of China	China	—
2	Bidirectional cross-day alignment of neural spikes and behavior using a hybrid SNN-ANN algorithm	—	—	—

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 developed AutoST, a training-free neural architecture search method for spiking transformers, establishing a novel approach to efficient model design in neuromorphic computing.

The researcher's contribution centers on the development of AutoST, a training-free neural architecture search framework specifically designed for spiking transformers. This work, published in 2024, represents a distinct methodological advance in the field of neuromorphic computing and efficient deep learning architectures.

This line of work appears to address the computational inefficiencies inherent in traditional neural architecture search by eliminating the need for training during the search process. The title suggests a focus on optimizing spiking transformer models,

which are critical for low-power, event-based computing systems, thereby offering a potentially more scalable solution for hardware-aware model design.

The significance of this contribution is evidenced by its rapid uptake within the research community. With 16 citations in a short timeframe, and notably 93.1% of citing papers originating from independent researchers, the work demonstrates broad external validation and relevance beyond the researcher's immediate circle, indicating its utility as a foundational tool for other scholars.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

AutoST: training-free neural architecture search for spiking transformers

2024 · ICASSP 2024 (Oral), 2024 · 16 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	SpikingMiniLM: energy-efficient spiking transformer for natural language understanding	Zhejiang University	China	—
2	Spikenas: A fast memory-aware neural architecture search framework for spiking neural network-based embedded ai systems	New York University Abu Dhabi	United Arab Emirates	—
3	NeuroNAS: Enhancing Efficiency of Neuromorphic In-Memory Computing for Intelligent Mobile Agents through Hardware-Aware Spiking Neural Architecture Search	New York University Abu Dhabi	United Arab Emirates	—
4	Spiking Neural Network Architecture Search: A Survey	The University of Arizona	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.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
The Hong Kong University of Science and Technology (Guangzhou)	China	SCImago #483 · THE =58 · QS 44	6
Tsinghua University	China	SCImago #8 · THE 12 · QS =17	5
Zhejiang University	China	SCImago #6 · THE 39 · QS 49	4
Jimei University	China	SCImago #4677	2
New York University Abu Dhabi	United Arab Emirates	SCImago #1431	2
Institute of Automation, Chinese Academy of Sciences	China	SCImago #340	2
HKUST(GZ)	China	—	2
University of Electronic Science and Technology of China	China	SCImago #129 · THE 301–350 · QS =519	2
Reichman University	Israel	SCImago #6480 · THE 801–1000	1

Institution	Country	World ranking	Citing papers
University of Science and Technology of China	China	SCImago #77 · THE 51 · QS =132	1
Chalmers University of Technology	Sweden	SCImago #919 · THE 201–250 · QS 165	1
SynSense	Switzerland	—	1
The Interdisciplinary Center	Israel	—	1
Shanghai University of Finance and Economics	China	SCImago #7841 · QS 1201-1400	1
Tencent Inc.	China	—	1

Geographic distribution of citing authors

Country	Citing papers
China	30
United States	2
Hong Kong	2
South Korea	2
United Arab Emirates	2
United Kingdom	2
Sweden	1
Germany	1
Switzerland	1
Israel	1
Australia	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	Masked spiking transformer	34	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	Spiking denoising diffusion probabilistic models	9	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	AutoST: training-free neural architecture search for spiking transformers	4	8 CFR 204.5(i)(3) — Outstanding Researcher