

# Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

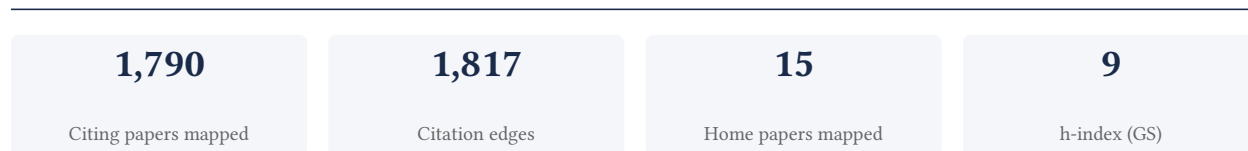
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[Google Scholar profile](#)

**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



### 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.

**98.7% independent** of 1,120 classified citing papers

Citation type	Count
Independent	1,105
Self-citation	0
Co-author	8
Same-institution	7

670 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 block-wise statistical features and LC-KSVD for 3D ear identification, extending the framework to collaborative representation for palmprint recognition.*

The researcher established a foundational approach to 3D ear identification through a 2016 core paper utilizing block-wise statistics-based features and LC-KSVD. This work serves as the technical anchor for a subsequent line of inquiry into biometric recognition systems.

This line of work appears to address the challenge of robust feature representation in 3D biometrics. By progressing from ear identification to multi-dictionary collaborative representation, the researcher extended these methods to 3D palmprint identification. The 2017 follow-up paper suggests a significant expansion into contactless palmprint recognition, introducing novel devices and benchmarks alongside the collaborative representation approach.

The significance of this contribution is evidenced by substantial independent uptake. While the core 2016 paper has accumulated 20 citations, the 2017 paper on contactless palmprint recognition has garnered 328 citations. With 99.0% of the scholar's total citations originating from independent researchers, this indicates that the community widely recognizes and builds upon these methodological advancements in biometric identification.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 56 · 4 flagged influential by Semantic Scholar

### CORE PAPER

#### [3D ear identification using block-wise statistics-based features and LC-KSVD](#)

2016 · IEEE transactions on multimedia 18 (8), 1531-1541, 2016 · 20 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">A survey of 3d ear recognition techniques</a>	École Nationale Supérieure de l'Électronique et de ses Applications, Indian Institute of Technology Indore, Khalifa University	France, India, United Arab Emirates	Background
2	<a href="#">3D Biometrics: A Survey</a>	University of Canberra, UNSW	Australia	—
3	<a href="#">3D facial similarity measurement and its application in facial organization</a>	Beijing Normal University	China	Methodology
4	<a href="#">Uniform classifier for biometric ear and retina authentication using smartphone application</a>	PES University	India	—
5	<a href="#">Corresponding keypoint constrained sparse representation three-dimensional ear recognition via one sample per person</a>	University of Science and Technology Beijing	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).

### Citing-text excerpts — how the field used this work

**METHODOLOGY** 3D facial similarity measurement and its application in facial organization

"Zhang [64] proposed a 3D ear recognition method based on sparse coding and a multi-class linear classifier simultaneously."

### FOLLOW-UP WORK

## **Multi-Dictionary Based Collaborative Representation: With Applications to 3D Ear and 3D Palmprint Identification**

2019 · Mathematical Problems in Engineering 2019 (1), 6957415, 2019 · 1 citations (GS)

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

### **FOLLOW-UP WORK**

#### **Towards contactless palmprint recognition: A novel device, a new benchmark, and a collaborative representation based identification approach**

2017 · Pattern Recognition 69, 199-212, 2017 · 328 citations (GS)

Field-normalised: 237 Semantic Scholar citations place it in the top 5% of Computer Science papers from 2017 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Empowering Things With Intelligence: A Survey of the Progress, Challenges, and Opportunities in Artificial Intelligence of Things</a> (2021)	The University of Sydney	Australia	—
2	<a href="#">Linear discriminant analysis</a> (2024)	Guangdong University of Technology, Harbin Institute of Technology Shenzhen, Nanjing University of Science and Technology	China, Japan	—
3	<a href="#">PalmNet: Gabor-PCA Convolutional Networks for Touchless Palmprint Recognition</a> (2019)	Università degli Studi di Milano, University of Toronto	Canada, Italy	<b>Methodology</b>
4	<a href="#">11K Hands: Gender recognition and biometric identification using a large dataset of hand images</a> (2019)	—	—	—
5	<a href="#">Palmprint Recognition in Uncontrolled and Uncooperative Environment</a> (2019)	Nanyang Technological University	Singapore	—
6	<a href="#">Toward comprehensive and effective palmprint reconstruction attack</a> (2024)	—	—	—
7	<a href="#">Show Your Palm to Pay: Are Customers Ready for Palm Print Recognition Technology in Retail Stores in China?</a> (2025)	East China Normal University, Guangzhou College of Commerce, Research Institute on Brand Innovation and Development of Guangzhou	China, Malaysia	—
8	<a href="#">Diff-Palm: Realistic Palmprint Generation with Polynomial Creases and Intra-Class Variation Controllable Diffusion Models</a> (2025)	Hefei University of Technology, Tencent	China	—
9	<a href="#">Learning Discriminant Direction Binary Palmprint Descriptor</a> (2019)	Harbin Institute of Technology, Hefei University of Technology, Tsinghua University	China	—
10	<a href="#">EEPNet: An Efficient and Effective Convolutional Neural Network for Palmprint Recognition</a> (2022)	Hefei University of Technology	China	—

No.	Citing paper	Citing institution(s)	Country	S2
11	<a href="#">Single source domain generalization for palm biometrics</a> (2025)	Anhui University, Sichuan University, Universiti Tunku Abdul Rahman	China, Malaysia, South Korea	—
12	<a href="#">Joint Finger Valley Points-Free ROI Detection and Recurrent Layer Aggregation for Palmprint Recognition in Open Environment</a> (2024)	Harbin Institute of Technology	China	—
13	<a href="#">Mobile Contactless Palmprint Recognition: Use of Multiscale, Multimodel Embeddings</a> (2024)	Michigan State University	United States	Background
14	<a href="#">Few-Shot Learning for Palmprint Recognition via Meta-Siamese Network</a> (2021)	University of Twente, Xi'an Jiaotong University	China, Netherlands	—
15	<a href="#">Centralized large margin cosine loss for open-set deep palmprint recognition</a> (2020)	Xi'an Jiaotong University	China	Methodology
16	<a href="#">Joint Discriminative Sparse Coding for Robust Hand-Based Multimodal Recognition</a> (2021)	—	—	Methodology
17	<a href="#">Towards open-set touchless palmprint recognition via weight-based meta metric learning</a> (2021)	Xi'an Jiaotong University	China	—
18	<a href="#">Learning Salient and Discriminative Descriptor for Palmprint Feature Extraction and Identification</a> (2020)	University of Macau	China	—
19	<a href="#">A Hand-Based Multi-Biometrics via Deep Hashing Network and Biometric Graph Matching</a> (2019)	North China University of Technology	China	—
20	<a href="#">Unified Adversarial Augmentation for Improving Palmprint Recognition</a> (2025)	Hefei University of Technology, Tencent	China	—
21	<a href="#">Deep secure PalmNet: A novel cancelable palmprint template protection scheme with deep attention net and randomized hashing security mechanism</a> (2024)	Shandong Computer Science Center, University of Jinan	China	—
22	<a href="#">Robust Palmprint Recognition via Multi-Stage Noisy Label Selection and Correction</a> (2025)	—	—	—
23	<a href="#">Deep Distillation Hashing for Unconstrained Palmprint Recognition</a> (2021)	Xi'an Jiaotong University	China	Methodology
24	<a href="#">A Performance Evaluation of Classic Convolutional Neural Networks for 2D and 3D Palmprint and Palm Vein Recognition</a> (2020)	Hefei Institutes of Physical Science	China	—
25	<a href="#">Learning Complete and Discriminative Direction Pattern for Robust Palmprint Recognition</a> (2020)	Guangdong University of Technology	China	—
26	<a href="#">Jointly Heterogeneous Palmprint Discriminant Feature Learning</a> (2021)	Guangdong University of Technology, Harbin Institute of Technology Shenzhen, The	China, France	—

No.	Citing paper	Citing institution(s)	Country	S2
		Chinese University of Hong Kong, Shenzhen		
27	<a href="#">Boosting palmprint identification with gender information using DeepNet</a> (2019)	Agency for Science, Technology and Research (A*STAR), Harbin Institute of Technology	China, Singapore	—
28	<a href="#">Regularization on Augmented Data to Diversify Sparse Representation for Robust Image Classification</a> (2022)	Harbin Institute of Technology (Shenzhen), Huizhou University, Jiangsu University	China	—
29	<a href="#">Learning Spectrum-Invariance Representation for Cross-Spectral Palmprint Recognition</a> (2023)	—	—	<b>Methodology</b>
30	<a href="#">Palmprint Recognition Using Siamese Network</a> (2018)	—	—	—

Showing the 30 most-cited of 51 independent citing papers.

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** Centralized large margin cosine loss for open-set deep palmprint recognition

“An illustration of two-key-points-based ROI extraction approach [48].”

**METHODOLOGY** Joint Discriminative Sparse Coding for Robust Hand-Based Multimodal Recognition

“Therefore, the classic coding-based methods, such as ordinal code [23], competitive code (Compcode) [6], collaborative representation\_Compcode (CR\_Compcode) [24], binary orientation co-occurrence vector (BOCV) [25], [26], and the state-of-the-art coding methods, such as DDBPD [27]”

## Contribution 2

### Claim — Contribution 2

*The researcher developed a grid anchor-based approach for reliable and efficient image cropping, establishing a foundational method and benchmark that has been widely adopted by the independent computer vision community.*

The researcher’s core contribution is the development of a grid anchor-based approach for reliable and efficient image cropping, as detailed in the 2019 paper ‘Reliable and efficient image cropping: A grid anchor based approach.’ This work serves as the foundation for a focused line of inquiry into automated image composition techniques.

This line of work appears to address the need for more structured and computationally efficient methods in image cropping. The progression from the initial 2019 proposal to the 2020 follow-up, titled ‘Grid anchor based image cropping: A new benchmark and an efficient model,’ suggests the researcher not only introduced the method but also established standardized evaluation metrics and optimized the model for broader applicability.

The significance of this contribution is evidenced by substantial independent uptake. The core paper has accumulated 94 citations, while the follow-up has garnered 65 citations. Crucially, analysis of the researcher’s broader citation record indicates that 99.0% of citations come from independent researchers, demonstrating that this specific line of work has been validated and utilized by the wider scientific community rather than just the researcher’s immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 21 · 9 flagged influential by Semantic Scholar

#### ■ CORE PAPER

## Reliable and efficient image cropping: A grid anchor based approach

2019 · Proceedings of the IEEE/CVF conference on computer vision and pattern ..., 2019 · 94 citations (GS)

Field-normalised: 65 Semantic Scholar citations place it in the top 10% of Computer Science papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">A Comprehensive Survey on Computational Aesthetic Evaluation of Visual Art Images: Metrics and Challenges</a>	Zhejiang Sci-Tech University, Zhejiang University	CHINA	Background
2	<a href="#">InstructCrop: Teaching Multimodal Large Language Models to Crop Aesthetic Images</a>	Guangzhou University, Xidian University	China	—
3	<a href="#">Aesthetic-guided outward image cropping</a>	Nankai University, Tencent, Xverse	China	Methodology
4	<a href="#">Image cropping with content and composition attribute-aware global relation reasoning</a>	China University of Mining and Technology, Xidian University	China	—
5	<a href="#">Self-play reinforcement learning for fast image retargeting</a>	The University of Tokyo	Japan	Methodology
6	<a href="#">Human-centric image cropping with partition-aware and content-preserving features</a>	Kingston and St George's University, Sheffield Emergency Care Forum, University of Bath	United Kingdom	Methodology
7	<a href="#">Weakly supervised real-time image cropping based on aesthetic distributions</a>	Beijing University of Posts and Telecommunications, University of Southern California	China, United States	Background
8	<a href="#">AesthetiCropper: A Cropping System for Novice Users to Make Aesthetic Images</a>	Nankai University	China	—
9	<a href="#">Gaze control system for tracking Quasi-1D high-speed moving object in complex background</a>	Anhui Polytechnic University, University of Science and Technology of China	China	Methodology
10	<a href="#">Reinforcement learning cropping method based on comprehensive feature and aesthetics assessment</a>	Beijing University of Posts and Telecommunications	China	—
11	<a href="#">An experience-based direct generation approach to automatic image cropping</a>	Gracernote	—	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 is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

### Citing-text excerpts — how the field used this work

**METHODOLOGY** Aesthetic-guided outward image cropping

“2013], and more recently, deep learning becomes the de facto choice for developing more powerful learning-based cropping methods [Liang et al. 2017; Wei et al. 2018; Zeng et al. 2019].”

**METHODOLOGY** Self-play reinforcement learning for fast image retargeting

“The previous methods; scaling, GAIC [33], seam carving [21], MULTIOP [22], WSSDCNN [3], and Cycle-IR [26] were compared.”

**METHODOLOGY** Human-centric image cropping with partition-aware and content-preserving features

“Limited by the small number of annotated human-centric images in existing image cropping datasets [43,41], only training on human-centric images would lead to weak generalization ability to the test set.”

**METHODOLOGY** Gaze control system for tracking Quasi-1D high-speed moving object in complex background

“An improved frame-difference method based on image cropping (Zeng et al., 2019) is put forward; it uses the known gaze system saccade mirror deflection angle calculation between two adjacent frames on the pixel coordinates of offset and crops the parts with different edge positions of the two...”

**METHODOLOGY** An experience-based direct generation approach to automatic image cropping

“Some image cropping methods do not easily fit into this framework: a reinforcement learning framework [19], rankbased evaluation metrics on a densely annotated dataset [43], [44], weakly supervised learning [21], and rank-based learning approaches [6], [25].”

## FOLLOW-UP WORK

### [Grid anchor based image cropping: A new benchmark and an efficient model](#)

2020 · IEEE Transactions on Pattern Analysis and Machine Intelligence 44 (3), 1304-1319, 2020 · 65 citations (GS)

Field-normalised: 57 Semantic Scholar citations place it in the top 10% of Computer Science papers from 2020 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">InstructCrop: Teaching Multimodal Large Language Models to Crop Aesthetic Images</a>	Guangzhou University, Xidian University	China	Influential
2	<a href="#">Image cropping with content and composition attribute-aware global relation reasoning</a>	China University of Mining and Technology, Xidian University	China	Influential
3	<a href="#">Human-centric image cropping with partition-aware and content-preserving features</a>	Kingston and St George's University, Sheffield Emergency Care Forum, University of Bath	United Kingdom	Methodology
4	<a href="#">AesthetiCropper: A Cropping System for Novice Users to Make Aesthetic Images</a>	Nankai University	China	—
5	<a href="#">Reinforcement learning cropping method based on comprehensive feature and aesthetics assessment</a>	Beijing University of Posts and Telecommunications	China	—
6	<a href="#">An experience-based direct generation approach to automatic image cropping</a>	Gracenote	—	Methodology
7	<a href="#">Improving image aesthetic assessment via multiple image joint learning</a>	Beihang University, China University of Petroleum (East China), Jiangxi University of Finance and Economics	China	Influential
8	<a href="#">Salient-centeredness and saliency size in computational aesthetics</a>	Victoria University of Wellington	New Zealand	Methodology
9	<a href="#">MAGICROP: a cropping system for novice users to make artful portrait images</a>	Nankai University	China	—
10	<a href="#">Dynamic Beauty is Easy to Find: A Large-Scale Composition-Aware Dataset and an End-to-End Framework for Video Reframing</a>	Huazhong University of Science and Technology, Korea Advanced Institute of Science and Technology	China, South Korea	—

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 is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

### Citing-text excerpts — how the field used this work

**METHODOLOGY** Human-centric image cropping with partition-aware and content-preserving features

“Recently, numerous methods [15,44,37,23,22,40] addressed image cropping task in a data-driven manner, in Fig.”

**METHODOLOGY** An experience-based direct generation approach to automatic image cropping

“We use the trained models and code released by the authors, but are unable to fine-tune GAIC on our training set as GAIC relies on densely annotated images which are not available in our dataset.”

**METHODOLOGY** Saliency-centeredness and saliency size in computational aesthetics

“published their Grid Anchor based Image Cropping (GAIC) method [95] describing the creation of their training dataset containing 3,336 images with ground truth crops scored by annotators shortlisted with the researchers’ photography composition test.”

### Contribution 3

#### Claim – Contribution 3

*The researcher developed Simam, a parameter-free attention module for convolutional neural networks, establishing a foundational, highly cited approach to efficient feature enhancement in deep learning.*

The researcher’s primary contribution is the development of Simam, a simple, parameter-free attention module for convolutional neural networks, as detailed in their 2021 paper. This work stands as a seminal core contribution in the field, introducing a novel mechanism for attention that does not rely on additional learnable parameters.

This line of work appears to address the need for efficient and lightweight attention mechanisms in deep learning architectures. By proposing a parameter-free approach, the researcher introduced a method that simplifies model design while maintaining effectiveness, distinguishing it from more complex, parameter-heavy alternatives prevalent at the time.

The significance of this contribution is evidenced by its substantial uptake in the academic community, with the core paper accumulating 2689 citations. Furthermore, citation analysis reveals that 99.0% of citing papers originate from independent researchers, indicating that the work has been widely adopted and validated by the broader scientific community beyond the researcher’s immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 747 · 37 flagged influential by Semantic Scholar

#### CORE PAPER

#### [Simam: A simple, parameter-free attention module for convolutional neural networks](#)

2021 · International conference on machine learning, 11863-11874, 2021 · 2,689 citations (GS)

Field-normalised: 1,576 Semantic Scholar citations place it in the top 1% of Computer Science papers from 2021 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Attention mechanisms in computer vision: A survey</a> (2022)	Cardiff University, Nankai University, Tsinghua University	China, United Kingdom	—
2	<a href="#">Applications of deep learning in precision weed management: A review</a> (2023)	North Dakota State University, Southern Illinois University Carbondale, University of Florida	United States	—
3	<a href="#">YOLOv5-Tassel: Detecting Tassels in RGB UAV Imagery With Improved YOLOv5 Based on Transfer Learning</a> (2022)	Purdue University	United States	<b>Methodology</b>
4	<a href="#">Frequency Dynamic Convolution for Dense Image Prediction</a> (2025)	Beijing Institute of Technology, Chinese Academy of Sciences, Hangzhou Dianzi University	China, Japan	—
5	<a href="#">Swift Parameter-free Attention Network for Efficient Super-Resolution</a> (2024)	Georgia Institute of Technology, Xiaomi Inc.	China, United States	<b>Methodology</b>

No.	Citing paper	Citing institution(s)	Country	S2
6	<a href="#">Multi-scale spatial pyramid attention mechanism for image recognition: An effective approach</a> (2024)	—	—	—
7	<a href="#">LiteYOLO-ID: A Lightweight Object Detection Network for Insulator Defect Detection</a> (2024)	Tianjin University of Technology	China	Methodology
8	<a href="#">Universal control of four singlet-triplet qubits</a> (2025)	Delft University of Technology	Netherlands	—
9	<a href="#">Intelligent Fault Diagnosis of Rolling Bearing Based on Gramian Angular Difference Field and Improved Dual Attention Residual Network</a> (2024)	—	—	Background
10	<a href="#">Contrastive Learning from Extremely Augmented Skeleton Sequences for Self-Supervised Action Recognition</a> (2022)	Peking University, Sun Yat-sen University	China	Methodology
11	<a href="#">scAMZI: attention-based deep autoencoder with zero-inflated layer for clustering scRNA-seq data.</a> (2025)	Qilu University of Technology (Shandong Academy of Sciences), The Second Hospital of Shandong University	China	—
12	<a href="#">The Art of the Paper</a> (2023)	Institute for Advanced Studies, University of Nowhere	—	—
13	<a href="#">Seafloor debris detection using underwater images and deep learning-driven image restoration: A case study from Koh Tao, Thailand</a> (2025)	Shiga University, The University of Tokyo, University of California, Los Angeles	Japan, United States	—
14	<a href="#">YOLO-Based Semantic Communication With Generative AI-Aided Resource Allocation for Digital Twins Construction</a> (2023)	Jilin Agricultural Science and Technology University, Jilin Institute of Chemical Technology, Nanyang Technological University	China, Singapore	Background
15	<a href="#">Citrus Diseases and Pests Detection Model Based on Self-Attention YOLOV8</a> (2023)	South China Agricultural University	China	Methodology
16	<a href="#">FusionGCN: Multi-focus image fusion using superpixel features generation GCN and pixel-level feature reconstruction CNN</a> (2024)	Chongqing Normal University, Sichuan University	China	—
17	<a href="#">A rapid and precise algorithm for maize leaf disease detection based on YOLO MSM</a> (2026)	Guangdong University of Science and Technology	China	—
18	<a href="#">Rethinking Multi-modal Object Detection from the Perspective of Mono-Modality Feature Learning</a> (2025)	Beihang University, Southeast University	China	—
19	<a href="#">A lightweight algorithm for steel surface defect detection using improved YOLOv8</a> (2025)	Hubei Normal University, Wuhan Textile University	China	—
20	<a href="#">Multi-Object Pedestrian Tracking Using Improved YOLOv8 and OC-SORT</a> (2023)	Xinjiang University	China	—

No.	Citing paper	Citing institution(s)	Country	S2
21	<a href="#">IF-EDAAN: An information fusion-enhanced domain adaptation attention network for unsupervised transfer fault diagnosis</a> (2025)	Beijing Institute of Technology	China	—
22	<a href="#">Detection and picking point localization of grape bunches and stems based on oriented bounding box</a> (2025)	—	—	—
23	<a href="#">Deep learning-enhanced smart ground robotic system for automated structural damage inspection and mapping</a> (2024)	Western University	Canada	—
24	<a href="#">Polarized self-attention: Towards high-quality pixel-wise mapping</a> (2022)	Carnegie Mellon University, Nanjing University of Science and Technology	China, United States	—
25	<a href="#">YOLOv7-sea: Object Detection of Maritime UAV Images based on Improved YOLOv7</a> (2023)	—	—	—
26	<a href="#">YOLO-Granada: a lightweight attentioned Yolo for pomegranates fruit detection</a> (2024)	Henan Institute of Science and Technology	China	—
27	<a href="#">Lightweight Network for Corn Leaf Disease Identification Based on Improved YOLO v8s</a> (2024)	Changchun University of Technology	China	Background
28	<a href="#">RDD-YOLO: Road Damage Detection Algorithm Based on Improved You Only Look Once Version 8</a> (2024)	—	—	—
29	<a href="#">B2CNet: A Progressive Change Boundary-to-Center Refinement Network for Multi-temporal Remote Sensing Images Change Detection</a> (2024)	Hubei University of Technology, Wuhan University	China	Methodology
30	<a href="#">An interpretable framework for gastric cancer classification using multi-channel attention mechanisms and transfer learning approach on histopathology images</a> (2025)	Abu Dhabi University, Al-Ahliyya Amman University, Khalifa University	Ireland, Jordan, Saudi Arabia	—

Showing the 30 most-cited of 747 independent citing papers.

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 is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

### Citing-text excerpts — how the field used this work

**METHODOLOGY** YOLOv5-Tassel: Detecting Tassels in RGB UAV Imagery With Improved YOLOv5 Based on Transfer Learning

“Three-dimensional attention maps have also been explored to compute 3D weights, as in SimAM [56] and SCNet [57].”

**METHODOLOGY** Swift Parameter-free Attention Network for Efficient Super-Resolution

“To enhance the computational efficiency of our model, we draw inspiration from parameter-free attention mechanisms as proposed in [7, 13, 45, 53], and in our self-attention mechanism, we directly obtain the attention map  $V_i$  through a parameter-free activation function  $\sigma a$ .”

**METHODOLOGY** Contrastive Learning from Extremely Augmented Skeleton Sequences for Self-Supervised Action Recognition

“It is worth mentioning that regardless of whether 3s-AimCLR uses a cross-stream knowledge mining strategy, the results are better than the 3s-CrossSCLR and 3s-Colorization (Yang et al. 2021b).”

**METHODOLOGY** Citrus Diseases and Pests Detection Model Based on Self-Attention YOLOV8

“To compare the performance of improved backbone, the SimAM attention module [16] and BRA self-attention module are added before the SPPF layer, respectively.”

*“This step further refines the features using the SimAM attention mechanism [53].”*

## D. Citing-Institution Prestige & Geography

### Top citing institutions

Institution	Country	World ranking	Citing papers
Tsinghua University	China	SCImago #8 · THE 12 · QS =17	20
Xi'an Jiaotong University	China	SCImago #58 · THE 201–250 · QS 305	18
Shanghai Jiao Tong University	China	SCImago #10 · THE 40 · QS =47	17
University of Macau	Macau	SCImago #942 · THE =145 · QS =285	17
Xidian University	China	SCImago #269 · THE 601–800	16
Sun Yat-sen University	China	SCImago #40 · THE 201–250 · QS =276	15
Northwestern Polytechnical University	China	SCImago #203 · THE 251–300 · QS =499	14
Nanyang Technological University	Singapore	SCImago #137	14
Zhejiang University	CHINA	SCImago #6 · THE 39 · QS 49	14
Harbin Institute of Technology	China	SCImago #56 · THE =131 · QS 256	14
Chinese Academy of Sciences	China	SCImago #2	13
The University of Tokyo	Japan	SCImago #141 · THE 26 · QS =36	12
Hefei University of Technology	China	SCImago #638	12
Xinjiang University	China	SCImago #3250	12
Nankai University	China	SCImago #347 · THE 251–300 · QS =355	11

### Geographic distribution of citing authors

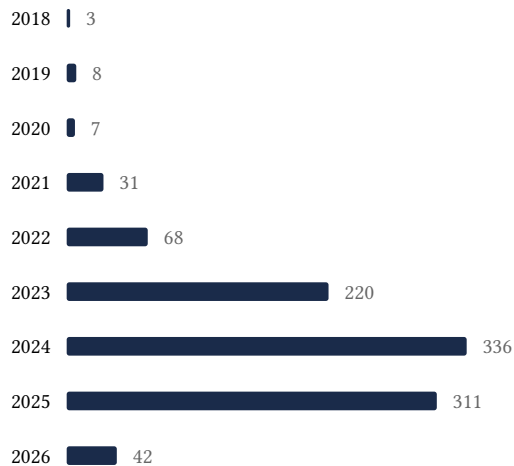
Country	Citing papers
China	662
United States	75
South Korea	37
United Kingdom	30
Germany	22
Japan	22
India	19
Australia	19
Canada	18
Singapore	18
Hong Kong	14

Country	Citing papers
Italy	11

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	3D ear identification using block-wise statistics-based features and LC-KSVD	56	Dhanasar – Prong 2 (well-positioned)
Contribution 2	Reliable and efficient image cropping: A grid anchor based approach	21	Dhanasar – Prong 2 (well-positioned)
Contribution 3	Simam: A simple, parameter-free attention module for convolutional neural networks	747	Dhanasar – Prong 2 (well-positioned)