

PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Title page; Title identifies as a review; Abstract states 'systematic' and PRISMA use (Section 2).
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Abstract (p.1); follows journal abstract format (see PRISMA guidance).
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Section 1.1 Background and Motivation; Section 1.3 Major challenges.
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Section 1.4 Survey scope and contributions (four contributions listed).
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Section 2.2 Inclusion/Exclusion Criteria; Section 3 taxonomy for grouping.
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Section 2.1 Search Strategy (IEEE, ACM, Springer, ScienceDirect, Scopus, arXiv); Search performed September 15, 2025.
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Section 2.1 Search Strategy (full boolean query provided; database-specific adaptation noted).
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Section 2.3 Screening and Data Extraction (two independent reviewers + third adjudicator; de-duplication; title/abstract/full-text).

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Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Section 2.3 Screening and Data Extraction (structured extraction sheet; fields listed).
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Section 2.5 Quantitative Synthesis; Section 6 Comparative Quantitative Analysis (AP_S primary; mAP, AP50/75, AR_S).
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Section 2.3 Data fields (backbone, datasets, Params, GFLOPs, FPS, hardware); missing data handled via narrative synthesis when needed (Section 2.5).
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Section 2.4 Quality and Bias Assessment (criteria adapted from AMSTAR principles; assessed by reviewers).
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Not applicable (narrative synthesis without pooled effect sizes). Accuracy metrics defined in Section 5.1.
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Section 2.2 Criteria; Section 2.3 screening; final N=112 included.
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Section 2.5 Quantitative Synthesis; normalization by hardware noted (Section 6.1).
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Section 6.1 Master Comparison Table (Table 1); Section 6.2 Visual Performance Summaries (Figure 6).
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Narrative and tabular synthesis only; no meta-analysis performed (Sections 2.5, 6).

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	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Discussed qualitatively via domains/datasets/hardware groupings (Sections 4, 6.3). No statistical heterogeneity analysis (no meta-analysis).
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Not applicable (no meta-analysis). Robustness discussed qualitatively (Section 6.3).
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Addressed narratively in Section 2.4 and Section 6.3; no formal small-study bias tests (no meta-analysis).
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Narrative confidence discussion in Sections 2.4 and 12 (limitations/future directions). No formal GRADE.
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Section 2.3; Figure 2 PRISMA flow (identification to inclusion).
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Section 2.2 & 2.3 give exclusion reasons; exemplar categories provided; individual excluded citations summarized at screening stages.
Study characteristics	17	Cite each included study and present its characteristics.	Throughout Sections 3–7; master table fields defined (Table 1). Complete list in References.
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Section 2.4 Quality and Bias Assessment; applied across included studies.
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Table 1 (accuracy/efficiency metrics) and Section 6; individual metrics as

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			reported by each study.
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Section 6.3 Trend and Significance Analysis; Section 2.4 for bias notes.
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Not applicable (no meta-analysis).
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Not applicable (no meta-analysis). Discussed qualitatively in Section 6.3.
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Not applicable (no meta-analysis).
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Not applicable (no meta-analysis). Narrative assessment in Section 2.4/6.3.
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Narrative appraisal (Sections 2.4, 12). No formal GRADE.
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Section 6.3 Trends; Sections 8–11 Applications and Guidance; Section 13 Conclusion.
	23b	Discuss any limitations of the evidence included in the review.	Section 12 Limitations and Future Directions.
	23c	Discuss any limitations of the review processes used.	Section 12 notes PRISMA limits in CV context; Section 2.4 biases.
	23d	Discuss implications of the results for practice, policy, and future research.	Sections 8–11 (practical guidance, playbooks, deployment), Section 12 (future work).
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Not registered (stated in Section 2, PRISMA framework applied without PROSPERO-equivalent).
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	No separate protocol prepared; methods detailed in Section 2.

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	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A (no registration/protocol).
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	No financial or non-financial support for the review.
Competing interests	26	Declare any competing interests of review authors.	No Conflicts of Interest Authors.
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Data/code availability statement: quantitative table compiled from cited papers; no new datasets/code; manuscript sections 6 & references.

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