

# The NAS Best Practices Checklist (version 1.0.1, Nov. 1st, 2021)

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## Best practices for releasing code

For all experiments you report, check if you released:

- Code for the training pipeline used to evaluate the final architectures
- Code for the search space
- The hyperparameters used for the final evaluation pipeline, as well as random seeds
- Code for your NAS method
- Hyperparameters for your NAS method, as well as random seeds

Note that the easiest way to satisfy the first three of these is to use *existing* NAS benchmarks, rather than changing them or introducing new ones.

## Best practices for comparing NAS methods

- For all NAS methods you compare, did you use exactly the same NAS benchmark, including the same *dataset* (with the same training-test split), *search space* and *code* for training the architectures and *hyperparameters* for that code?
- Did you control for confounding factors (different hardware, versions of DL libraries, different runtimes for the different methods)?
- Did you run ablation studies?
- Did you use the same evaluation protocol for the methods being compared?
- Did you compare performance over time?
- Did you compare to random search?
- Did you perform multiple runs of your experiments and report seeds?
- Did you use tabular or surrogate benchmarks for in-depth evaluations?

## Best practices for reporting important details

- Did you report how you tuned hyperparameters, and what time and resources this required?
- Did you report the time for the entire end-to-end NAS method (rather than, e.g., only for the search phase)?
- Did you report all the details of your experimental setup?

For details on these best practices, please see our JMLR paper "Best Practices for Scientific Research on Neural Architecture Search", <https://www.jmlr.org/papers/v21/20-056.html>.