

View Meta-Reviews

Paper ID

3534

Paper Title

Distributional Generalization: Characterizing Classifiers Beyond Test Error

META-REVIEWER #1

META-REVIEW QUESTIONS

1. Please recommend a decision for this submission.

Reject

3. Please provide a meta-review for this submission. Your meta-review should explain your decision to the authors. It should augment the reviews and communicate how the reviews, author response, and discussion were used to arrive at a decision. Dismissing or ignoring a review is not acceptable unless you have a good reason for doing so. If you want to make a decision that is not clearly supported by the reviews, perhaps because the reviewers did not come to a consensus, please justify your decision appropriately, including, but not limited to, reading the submission in full and writing a detailed meta-review that explains your decision.

The authors present unexpected and interesting empirical findings related to interpolating (over-parametrized) classifiers. They document this phenomenon in details and propose a formal setup to study it. While the reviewers agree that the phenomenon is indeed an interesting and unexpected one, the following concerns were raised in the reviews:

(*) Importance and implications of the phenomenon/conjecture (R9, R11). Reviewers agree that the empirical phenomenon documented in the paper is indeed unexpected and interesting. However, reviewers feel that this alone is not sufficient to accept the paper for the conference. Reviewers agree that "The first step in scientific study is often to identify and establish an empirical phenomena/conjecture" (quoting the rebuttal). However, unless these phenomena/conjectures are demonstrated to have potentially important implications for the scientific field, their value is not clear. There may be many different interestingly looking properties of a real world object that play no role in how this object poses itself or interacts with the outside world. At this point the authors failed to convince the reviewers that the Feature Calibration Conjecture (and related empirical observations) are important for the field of deep neural networks. The reviewers believe (and I agree) that while Section 1.3 does mention many "hot" topics in DNN understanding, in most of the cases the role of/relation to the "Feature Calibration" is not clear.

(*) Conjecture 1. What does the closeness between LHS and RHS mean? (R9) The authors replied in the rebuttal saying that "it means closeness in TV sense" but the question was rather "what does the closeness mean/imply in terms of the problem at hand?". Conjecture 1 plays a central role in the paper and currently its meaning is not very well communicated/articulated (at least reviewers had hard time interpreting it).

These concerns were not fully resolved in the rebuttal. I have to recommend the rejection. However, I suggest the authors to address the feedback provided by the reviewers (especially on the importance and relevance of the documented phenomenon for the DNN understanding) and re-submit the paper to future conferences.

8. I agree to keep the paper and supplementary materials (including code submissions), and reviews confidential, and delete any submitted code at the end of the review cycle to comply with the confidentiality requirements.

Agreement accepted

9. I acknowledge that my meta-review accords with the ICML code of conduct.

