**### Task 1 ###**

**Source Documents:**

Link to OpenReview: <https://openreview.net/forum?id=DGwX7wSoC->

**Meta-review:**

The paper proposes to add a regularisation term H to RL algorithms in order to work around issues caused by the multiple fixed points of the Bellman’s optimality equation. The added H term is inspired by quantum field theory, specifically the K-spin Ising model.\nAll reviewers thought this was an interesting idea, but by the end of the review period, there remained some problems with this paper. Indeed, this paper is not a theory paper, and there is no mathematical proof that the added H term does accomplish the stated goal of variance reduction. This leaves us with empirical evidence. Unfortunately, as was pointed out by reviewers, \"Experiment is limited to the 6 MuJoCo tasks\", which is not enough to convince that the algorithm should generally work. Finally, many reviewers were confused by the claim that PPO solves the Bellman Optimality Equation. By the end of the review, not all reviewers were convinced this problem had been resolved. This point should be clarified, and it would be better for the paper to go through a new round of reviews before being accepted for publication.

**Statements that draw on external knowledge:**

Possible sources:

1. Meta-reviewer's knowledge in the field

2. Information from the full paper (excluding abstract)

3. Knowledge from related publications

4. Other

Please feel free to add more rows to the table.

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| Indeed, this paper is not a theory paper, and there is no mathematical proof that the added H term does accomplish the stated goal of variance reduction. This leaves us with empirical evidence. | Meta-reviewer's knowledge in the field |
| This point should be clarified, and it would be better for the paper to go through a new round of reviews before being accepted for publication. | Meta-reviewer's knowledge in the field |

**### Task 2 ###**

**Source Documents:**

Link to OpenReview: <https://openreview.net/forum?id=BkgF4kSFPB>

**Meta-review:**

The submission presents an approach to visual planning. The work builds on semi-parametric topological memory (SPTM) and introduces ideas that facilitate zero-shot generalization to new environments. The reviews are split. While the ideas are generally perceived as interesting, there are significant concerns about presentation and experimental evaluation. In particular, the work is evaluated in extremely simple environments and scenarios that do not match the experimental settings of other comparable works in this area. The paper was discussed and all reviewers expressed their views following the authors' responses and revision. In particular, R1 posted a detailed justification of their recommendation to reject the paper. The AC agrees that the paper is not ready for publication in a first-tier venue. The AC recommends that the authors seriously consider R1's recommendations.

**Statements that draw on external knowledge:**

Possible sources:

1. Meta-reviewer's knowledge in the field

2. Information from the full paper (excluding abstract)

3. Knowledge from related publications

4. Other

Please feel free to add more rows to the table.

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**### Task 3 ###**

**Source Documents:**

Link to OpenReview: <https://openreview.net/forum?id=S1exA2NtDB>

**Meta-review:**

This paper introduces an evolution strategy for solving the MAML problem. Following up on some other evolutionary methods as alternatives for RL algorithms, this ES-MAML algorithm appears to be quite stable and efficient. The idea makes sense, and the experiments appear strong.\n\nThe scores of the reviews showed a lot of variance: 1,6,8. Therefore, I asked a 4th reviewer for a tie-breaking review, and he/she gave another 8. The rejecting reviewer mostly took objection to the fact that learning rates / step sizes were not tuned consistently, which can easily change the relative ranking of different ES algorithms. Here, I agree with the authors' rebuttal: the fact that even a simple ES algorithm performs well is very promising, and further tuning would only strengthen that result. Nevertheless, it would be useful to assess the algorithm's sensitivity w.r.t. its learning rate / step size.\n\nIn summary, I agree with the tie breaking review and recommend acceptance as a poster.

**Statements that draw on external knowledge:**

Possible sources:

1. Meta-reviewer's knowledge in the field

2. Information from the full paper (excluding abstract)

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4. Other

Please feel free to add more rows to the table.

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**### Task 4 ###**

**Source Documents:**

Link to OpenReview: <https://openreview.net/forum?id=r1erNxBtwr>

**Meta-review:**

The paper investigates graph convolutional filters, and proposes an adaptation of the Fisher score to assess the quality of a convolutional filter. Formally, the defined Graph Filter Discriminant Score assesses how the filter improves the Fisher score attached to a pair of classes (considering the nodes in each class, and their embedding through the filter and the graph structure, as propositional samples), taking into account the class imbalance.\n\nAn analysis is conducted on synthetic graphs to assess how the hyper-parameters (order, normalization strategy) of the filter rule the GFD score depending on the graph and class features. As could have been expected there no single killer filter.\n\nA finite set of filters, called base filters, being defined by varying the above hyper-parameters, the search space is that of a linear combination of the base filters in each layer. Three losses are considered: with and without graph filter discriminant score, and alternatively optimizing the cross-entropy loss and the GFD; this last option is the best one in the experiments.\n\nAs noted by the reviewers and other public comments, the idea of incorporating LDA ideas into GNN is nice and elegant. The reservations of the reviewers are mostly related to the experimental validation: of course getting the best score on each dataset is not expected; but the set of considered problems is too limited and their diversity is limited too (as demonstrated by the very nice Fig. 5).\n\nThe area chair thus encourages the authors to pursue this very promising line of research and hopes to see a revised version backed up with more experimental evidence.

**Statements that draw on external knowledge:**

Possible sources:

1. Meta-reviewer's knowledge in the field

2. Information from the full paper (excluding abstract)

3. Knowledge from related publications

4. Other

Please feel free to add more rows to the table.

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**### Task 5 ###**

**Source Documents:**

Link to OpenReview: <https://openreview.net/forum?id=2DJwuD-elOt>

**Meta-review:**

This paper aims to improve performance on edge devices by utilizing a large-capacity network in the cloud. To this end, the authors suggest using the routing network that decides whether to use the base model (on the edge device) or the global model (on the cloud). They also propose an overall training scheme for learning not only model parameters, but also network architectures. After the discussion period, 3 reviewers are on the negative side, and 1 reviewer is positive. AC thinks that the authors’ response was not enough to convince the negative reviewers. In particular, AC agrees with the negative comments of reviewers on limited novelty, unclear motivation for the proposed method, and unclear presentations. Overall, AC recommends rejection.

**Statements that draw on external knowledge:**

Possible sources:

1. Meta-reviewer's knowledge in the field

2. Information from the full paper (excluding abstract)

3. Knowledge from related publications

4. Other

Please feel free to add more rows to the table.

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| (Remove this text when you need to fill the table. If there is no text span to highlight, please keep this and highlight this line of text.) |  |

**### Task 6 ###**

**Source Documents:**

Link to OpenReview: <https://openreview.net/forum?id=Hygy01StvH>

**Meta-review:**

The reviewers have pointed out several major deficiencies of the paper, which the authors decided not to address.

**Statements that draw on external knowledge:**

Possible sources:

1. Meta-reviewer's knowledge in the field

2. Information from the full paper (excluding abstract)

3. Knowledge from related publications

4. Other

Please feel free to add more rows to the table.

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