

ECE1504 Project

Potential Papers

- ☐ [The Information Bottleneck Method](#)
- ☐ [Tightening Mutual Information Based Bounds on Generalization Error](#)
- ☐ [On a Connection between Importance Sampling and the Likelihood Ratio Policy Gradient](#)
- ☐ [Modeling Interaction via the Principle of Maximum Causal Entropy](#)

Introduction

- ☐ Walk over the high-level ideas in the paper and inform the reader about what they emphasize on
- ☐ Highlight the key findings and aspects of the work
- ☐ Discuss the pros/cons at a very high-level

Related Work

- ☐ Throw light on the review carried out by the paper
- ☐ Emphasize on the pros/cons of previous works and how the paper has improved upon it
- ☐ Point out some of the open areas which the work discusses/touches upon
- ☐ Towards the end, discuss what could be improved from a literature point of view (more specifically highlight what has been done following the paper)

Method-1

- ☐ Discuss in detail the first method, its specifications, general discussions, comments, strengths, weaknesses, etc.
- ☐ This section should consist of all the goods and bads of the paper and proper reasoning as provided by the authors
- ☐ Inform the reader about something which is critical or novel, highlight if the authors missed something or a potential gap which arises
- ☐ Lay out potential problems (if any) with the approach or any scenarios in which it may not work well

Method-2

Exactly same as Method-1

Application Areas

- ☐ Have a broad discussion about the applications, experiments, important findings of the work.
- ☐ Involve the reader into the goods and bads of the setup, its specifications, why is it essential from an application perspective.
- ☐ Lay out some possible areas of expansion or scenarios where the approach would work/perform better
- ☐ End the discussion by commenting upon the applicability of methods to practical settings (emphasize on how these translate to real life)

Conclusion

- ☐ Wrap up with your own conclusion of the papers and their scope for future research
- ☐ Do not forget to highlight the key pros/cons of the work
- ☐ Sum up theoretical guarantees, practical findings and the new directions

OFFICE HOUR

- ☐ Part 2, Problem 6 Part (b) and (c). Do not have a very good idea where to start? Can the leave one out error be equal to the training error?
- ☐ Part 1, Problem 6 (2.13) Part (c). This is a union bound but how to assess the tightness of it?
- ☐ Part 1, Problem 7 (2.14) Part (c). No idea how to approach it? The results from the above two parts are not being directly used?