

# General framework for proving the Equivariant Strong Lottery Ticket Hypothesis

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## 1 Overview of the internship

I did my internship at the Montréal Institute for Learning Algorithms under the supervision of Gauthier Gidel who is an assistant professor at Université de Montréal. I worked a lot with Joey Bose, PhD in the team of Gauthier Gidel as well as with Christos Tsirigotis PhD under the supervision of Aaron Courville who joined the project in April. I began mid february 2022 and finished around end of June 2022.

I really enjoyed the internship for multiple reasons. First my supervisor was very reactive and very involved in the project. Second, the subject was very interesting ad at the very edge of current research, in an area still quite unexplored today. Finally, I was fully immersed in the life of PhDs and master students in the Lab and had amazing discussions with some of them, which raised a lot of interesting questions to tackle in (I hope) future works.

The area was deep learning on the theoretical side and the internship led to the extension in a more general setting of the strong lottery ticket hypothesis. The article was submitted to NeurIPS 2022 around mid-May and from then on, we changed the orientation of the project, on which we are still working remotely.

## 2 General framework for proving the Equivariant Strong Lottery Ticket Hypothesis

The pre-publiation [Ferbach et al. \[2022\]](#) that we wrote at the end of the internship can be found following this link: <https://arxiv.org/abs/2206.04270>.

## References

- D. Ferbach, C. Tsirigotis, G. Gidel, et al. A general framework for proving the equivariant strong lottery ticket hypothesis. *arXiv preprint arXiv:2206.04270*, 2022. (Cited on page [1](#))