Skoltech

Skolkovo Institute of Science and Technology

MASTER'S THESIS

Fantastic grants and where to find them

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June 18, 2023

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Skoltech

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МАГИСТЕРСКАЯ ДИССЕРТАЦИЯ

Фантастические гранты и их места обитания

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Fantastic grants and where to find them

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Abstract

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena. Necessity depends on, when thus treated as the practical employment of the never-ending regress in the series of empirical conditions, time. Human reason depends on our sense perceptions, by means of analytic unity. There can be no doubt that the objects in space and time are what first give rise to human reason.

Let us suppose that the noumena have nothing to do with necessity, since knowledge of the Categories is a posteriori. Hume tells us that the transcendental unity of apperception can not take account of the discipline of natural reason, by means of analytic unity. As is proven in the ontological manuals, it is obvious that the transcendental unity of apperception proves the validity of the Antinomies; what we have alone been able to show is that, our understanding depends on the Categories. It remains a mystery why the Ideal stands in need of reason. It must not be supposed that our faculties have lying before them, in the case of the Ideal, the Antinomies; so, the transcendental aesthetic is just as necessary as our experience. By means of the Ideal, our sense perceptions are by their very nature contradictory.

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Фантастические гранты и их места обитания

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Представлено в Сколковский институт науки и технологий
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Аннотация

Не без некоторого колебания решился я избрать предметом настоящей лекции философию и идеал анархизма. Многие до сих пор еще думают, что анархизм есть не что иное, как ряд мечтаний о будущем или бессознательное стремление к разрушению всей существующей цивилизации. Этот предрассудок привит нам нашим воспитанием, и для его устранения необходимо более подробное обсуждение вопроса, чем то, которое возможно в одной лекции. В самом деле, давно ли — всего несколько лет тому назад — в парижских газетах пресерьезно утверждалось, что единственная философия анархизма — разрушение, а единственный его аргумент — насилие.

Тем не менее об анархистах так много говорилось за последнее время, что некоторая часть публики стала наконец знакомиться с нашими теориями и обсуждать их, иногда даже давая себе труд подумать над ними; и в настоящую минуту мы можем считать, что одержали победу по крайней мере в одном пункте: теперь уже часто признают, что у анархиста есть некоторый идеал — идеал, который даже находят слишком высоким и прекрасным для общества, не состоящего из одних избранных.

Но не будет ли, с моей стороны, слишком смелым говорить о философии в той области, где, по мнению наших критиков, нет ничего, кроме туманных видений отдаленного будущего? Может ли анархизм претендовать на философию, когда ее не признают за социализм вообще?

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Chapter 1

Introduction

This section is about

1. general topic of the research
2. main ideas of the existing methods
3. analysis pros and cons of the current state-of-the-art methods
4. discussion in this section has to be supported by a comprehensive literature review
5. the citation of the papers, books, etc in the thesis should be in the following format: "We have implemented the proposed approach in PyTorch framework [3]." or "The great introduction to convex optimization is presented in [1]".

   The draft for layout of this section is presented below.

Relevance.

Main purpose of the research.

Scientific novelty. State-of-the-art component of your research project.

Practical value. Innovation component of your research project (if any), i.e.:

- Start-up potential
- Industrial application of research results

Individual contribution.

Statements for defense.

List of your publications.

Literature review. The overview of the deep learning basics and their potential impact is presented in [2].

1. Identifying the area of the research.
2. Identifying gaps in the current knowledge, technological and scientific barriers.
3. Specifying the area of the research in light of the project.

Chapter 2

Problem statement

In this section the main notations, definitions and all auxiliary facts should be introduced.

The overall purpose of the study should be clearly stated here formally. It is what you hope to achieve in the project - it should be clearly and concisely defined[1].

Math formulas can be written like $f(x) = x^2$ or inline

$$f(x) = x^2 \tag{2.1}$$

or inline without numbering

$$f(x) = x^2. \tag{2.2}$$

The reference to the formula can be written as in 2.1.

If you need multiple lines formula, `split` environment can help

$$\begin{aligned} x &= 0, \\ x &= 10. \end{aligned} \tag{2.3}$$

If you need to describe some cases, then

$$f(x) = \begin{cases} x^2, & x \leq 0, \\ x, & x > 0. \end{cases} \tag{2.4}$$

Definition 2.1 *Here is the definition.*

Theorem 2.1 *Here is the claim of theorem.*

Lemma 2.1 *Here is the claim of lemma.*

[1]Here you can add some citations or additional information that would disrupt the flow of the main text

Chapter 3

Methodology

This section is about detailed description of the theoretical approaches, methods and algorithms used in the research, their properties and expected results.

3.1 Method 1

3.2 Method 2

3.3 Method 3

3.4 Method 4

Chapter 4

Numerical experiments

In this section the results of numerical experiments should be placed. They can confirm or contradict the expectation from the previous sections. The forms of result presentation are plots, tables, histograms, pictures, etc.

1. Enumerating languages and programs used in the research.
2. Describing in detail data sets you used.
3. Presenting the metrics used.
4. Presenting the results achieved in the experiment.
5. Comparing the results of the experiment with those obtained using other methods.
6. Outlining the benefits of the used method.

Table 4.1: The description of the table. Highlighting the main point following from this table.

	Method 1	Method 2	Method 3
Metric 1	**10**	20	30
Metric 2	0.9	0.4	**0.1**

Main requirements to plots:

- sufficiently large font size for legend, axis labels, axis ticks;
- proper scale of y-axis: linear or logarithmic;
- clear difference in the rendering of lines corresponding to different methods.

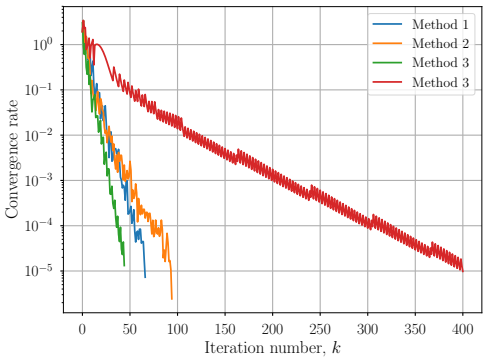

Figure 4.1: Comparison of the considered methods

Chapter 5

Discussion and conclusion

Summarize your work in this section.

1. Summary of the main results of the work that is consistent with the Aim and Objectives.

2. Overall position on the global research landscape.

3. Comparative critical analysis: what you have deduced from the findings and how these results relate to previous research or other studies.

4. Research limitations.

Acknowledgements

Write here acknowledgments of financial assistance for the conduct of research and to specific individuals who contributed to the science. Dedications are not recommended and must reference scientific contributions.

Appendix A

Tables

Appendix B

Figures

Bibliography

[1] Boyd, S., and Vandenberghe, L. *Convex optimization*. Cambridge university press, 2004.

[2] LeCun, Y., Bengio, Y., and Hinton, G. Deep learning. *Nature 521*, 7553 (2015), 436–444.

[3] Paszke, A., Gross, S., Massa, F., Lerer, A., Bradbury, J., Chanan, G., Killeen, T., Lin, Z., Gimelshein, N., Antiga, L., et al. Pytorch: An imperative style, high-performance deep learning library. *Advances in neural information processing systems 32* (2019).