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Master's thesis research plan

Master's Thesis in Information Technology

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Title: Master's thesis research plan

Työn nimi: Pro Gradu -tutkimussuunnitelma

Project: Master's Thesis

Study line: Mathematical Information Technology

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Abstract: This research plan contains description of the planned topic of master's thesis, its background, possible research methods and approaches.

Keywords: Master's Theses

Suomenkielinen tiivistelmä:

Tässä suunnitelmassa käydään läpi pro gradu -tutkielman mahdollista aihetta ja tutkimustapaa.

Avainsanat: Pro Gradu, tutkielma

Contents

0.1 Introduction

The thesis will perform a systematic research mapping on the field of Artificial General Intelligence (AGI)). The goal of the study is to identify the themes and subfields of AGI research in recent years, what is being researched currently, and what kind of gaps exist on the field. For a while the AGI field was not so active, the more specific approaches, 'narrow AI', grew in popularity. Recently, however, the call for a wider, more general artificial intelligence has been regaining interest. This kind of research mapping study would be needed as the research field is complex and there is no clear presentation of the current trends and focal points.

0.2 Literature mapping

Systematic mapping study creates an overview of the research area by categorizing the reports and studies, creating a visual map that provides information on how the research is focused. The method is based on observing the abstracts of studies, enabling faster analysis and greater volume in the material. In comparison, systematic literature review method goes on more detail, providing more verbal, summary-like results on the topic.

0.2.1 Possible material sources

The material is to be gathered through databases and search engines via specified search terms. Databases and content libraries such as IEEE, ACM, and Google Scholar can be used. One possible option would be to focus on journals that specialize on the field, such as *Journal of Artificial General Intelligence, Journal of Artificial Intelligence Research, and Artificial Intelligence*, the first of which is highly focused on the area, but not well ranked based on Publication Forum.

0.2.2 Method sources

There exists many good papers on the research method. There exists some good example theses using the approach, such as Mononen() and Ryynänen(). Guidelines regarding the

method itself can be found on Peterson and ... - menetelmä: voidaan esitellä hakusanat, hakuprosessi, hakukoneet ja tietokannat (hyödyllistä tietoa kirjata itselle muistiin, ei välttämättä tule lopulliseen graduun) - tulokset (tiivistetty kuvaus löytyneistä artikkeleista) - kerrotaan, mitä tutkittavasta aiheesta tiedetään entuudestaan metodilähteitä mainittava

0.3 Research topic/question

The research questions are not too specific yet, but some ideas are:

- What is the current state of AGI?
- What are the current techniques used and researched?
- What have been the most successful attempts recent years?
- How has the generalization of specific techniques advanced recently?

0.4 Research method and reasoning

0.5 Material gathering plan

- mitä, keneltä, milloin, miten - ml. eettiset näkökohdat (hyvä tieteellinen käytäntö jota noudatetaan, tietosuoja, tieteellisen tutkimuksen rekisteriseloste)

0.6 Material gathering

- kuvaa konkreetilla tasolla miten ja milloin aineisto kerätään, käsitellään, talletetaan, arkistoidaan/hävitetään

0.7 Material analysis

- analyysin kuvaus, millä menetelmällä analyysi tehdään

0.8 Results

0.9 Conclusion

Johtopäätökset

0.10 References

0.11 Appendix