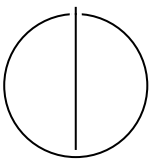
SCHOOL OF COMPUTATION, INFORMATION AND TECHNOLOGY — INFORMATICS

TECHNISCHE UNIVERSITÄT MÜNCHEN

Bachelor's Thesis in Informatics

Generalizing Knowlede

Author



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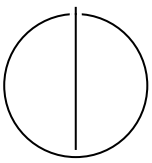

I confirm that this bachelor's thesis is my own work and I have documented all sources and material used.

Munich, 16.March.2025 Author

Acknowledgments

Abstract

In the past years Large Language Models (**LLMs**) like ChatGPT, have had a huge impact on the world. First, people were impressed, then they were scared for their jobs, and now everyone is just confused about what to expect in the future. This is mainly due to the extreme progress these models have made. The problem is that companies like OpenAI and Google have run into the same issue: how can we correct and improve LLMs if they are experts in almost every field? To overcome this problem I built a Team of 5 smaller and weaker LLMs to combine them using various Reinforcement Learning (**RL**) based methods to make them as strong as the newest State of the Art LLMs like gpt4o. Hier spöter zahlen und algorithmen

Contents

1 Introduction

[Bur+]

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Bibliography

[Bur+] C. Burns, P. Izmailov, J. H. Kirchner, B. Baker, L. Gao, L. Aschenbrenner, Y. Chen, A. Ecoffet, M. Joglekar, J. Leike, I. Sutskever, and J. Wu. *Weak-to-Strong Generalization: Eliciting Strong Capabilities With Weak Supervision*.