The field of materials science is experiencing an exponential growth in the volume of research. However, these quantity of information presents a significant challenge for researchers, making it increasingly difficult to stay updated with the latest developments. Furthermore, there is a notable gap in the availability of tools that can automate the generation of comprehensive literature reviews, which are essential for synthesizing and understanding emerging trends. To address this challenge, this master thesis' objective is to develop an open-source software solution that uses large language models to automatically generate literature reviews focused on users' studies in materials science. The software allows researchers to input their collection of studies and subsequently turns them into embeddings to be used by retrieval augmented generation, which will model a prompt for a LLM request thus generating a cohesive and detailed review article based on the provided literature. This solution will enable material scientists to quickly summarize the key ideas from multiple studies, enhancing both productivity and insight in the scientific process while allowing the track of new advancements.

Marrom – Contextualização
Azul – Gap
Vermelho – Proposta
Roxo – Metodologia
Laranja – Conclusões/Utilidade do projeto