

Declaration of originality

I declare under my responsibility that the Project presented with the title **Adaptive Optimization of RAG Systems with Bandit Methods** at the ICAI School of Engineering of the Comillas Pontifical University in the academic year 2025/26 is of my authorship and has not been presented previously for other purposes. The Project is not plagiarised from any other, either totally or partially, and the information that has been taken from other documents is duly referenced.

Use of Artificial Intelligence¹

I declare under my responsibility that (indicate the correct option):

I have not used Artificial Intelligence in the preparation of this document.

I have used Artificial Intelligence in the preparation of this document and/or Annex B under the conditions allowed by Comillas Pontifical University, i.e. applying Level 2 of the Perkins et al. (2024) Assessment Scale: "AI can be used for pre-task activities such as brainstorming, description and initial research. This level focuses on the use of AI for planning, synthesising and generating ideas, but assessments should emphasise the ability to develop and refine these ideas independently". Specifically, Artificial Intelligence has been used to:

- (i) Conduct initial research for the related work and state of the art references for the concepts addressed in this work
- (ii) Explain and clarify theoretical concepts during the initial study phase, such as Reinforcement Learning and Multi-Armed Bandits methods and the architecture of Retrieval Augmented Generation systems.
- (iii) Brainstorm and generate preliminary ideas for the structure of the code and implementation at the very beginning
- (iv) Suggest the idea of clustering for query aware mechanism, rather than codifying query into a state, an idea which was later developed and presented in this work.



Signature (student): **Jorge Ibinarriaga Robles**

Date: **June 11th 2026**

¹ This declaration refers to the use of generative Artificial Intelligence to carry out the Project documents (Annex B and Memory). It does not apply to Projects where, by their nature, artificial intelligence must be used as part of them (application of machine learning techniques, neural networks, data analysis...).

Authorisation for Project delivery

Thesis supervisor	Thesis deputy supervisor (if any)
Signature: Jacobo Chaquet Uildemolins	Signature:
Date: June 11th 2026	Date: