

Declaration of originality

I declare under my responsibility that the Project presented with the title **Analysis and Application of Reinforcement Learning to Portfolio Optimization** at the ICAI School of Engineering of the Comillas Pontifical University in the academic year 2025/2026 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:

Artificial Intelligence was used as a support tool during the preparation of the document, strictly adhering to pre-task activities and planning. Specifically, it was used to: brainstorm initial ideas and outline the structural flow of several sections; assist with LaTeX/TikZ syntax and troubleshooting for standard schematic diagrams and document formatting (table layouts, figure margins, and overall structure); suggest potential bibliographic references for the state-of-the-art chapter, which were subsequently located, read, and verified by the author; and help organize and structure the initial concepts for the Sustainable Development Goals section based on the author's raw notes. The AI was not used to draft or edit the final prose of the document. All conceptual development, technical analysis, implementation of the reinforcement learning models, and the final writing were executed entirely independently by the author, who assumes full responsibility for the final document.

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...).



Signature (student):

Date: 03/07/2026

Authorisation for Project delivery

Thesis supervisor



Signature:

Date: 03/07/2026

Thesis deputy supervisor (if any)



Signature:

Date: 07/07/2026