

Appendix

Regarding the AI-based tools used in this work, GitHub Copilot served as a daily programming assistant. Additionally, ChatGPT was employed to analyze and correct text spelling. Prompts such as "Taking the role of a peer reviewer, critique this text based on..." or "Explain what is understood from the following text" were used to refine the text and enhance the expression of ideas. ChatGPT was also utilized for correcting the document's formatting in LaTeX.

<ccs2012>

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<concept_desc>Computing methodologies~Genetic algorithms</concept_desc>

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</ccs2012>