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M5 model tree and Monte Carlo simulation for efficient structural reliability analysis

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Highlights

- CFORM is proposed to enhance the robustness of FORM-based MPP search
- M5Tree model with MCS is developed to improve the accuracy and efficiency of structural reliability analysis.
- The performances of CFORM and M5Tree+MC are illustrated using several reliability examples.
- The CFORM is more efficient than MCS and robust than the HL-RF method.
- The M5Tree+MC method provides an accurate results compared to CFORM, more efficiently.

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