

先端科学技術研究科 修士論文要旨

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要旨			
<p>In the field of code generation using large language models (LLMs), an iterative approach that tests and refines generated code to improve its correctness has garnered increasing attention. Example-based Testing is commonly employed in this context, evaluating correctness based on specific input examples. However, this method often lacks coverage and struggles to detect edge cases. To address this limitation, Property-based Testing—a method that verifies general properties expected of the code across a broad input space—is applied to LLM-generated code. To evaluate its effectiveness in handling edge cases, 16 HumanEval problems containing known bugs were tested using both Example-based Testing and Property-based Testing, with test cases generated by an LLM. A comparison of the test results provides insights into the strengths of Property-based Testing and its potential utility in enhancing the reliability of code generated by LLMs.</p>			