concolic testing tool, KLEE. As a result, it was possible to verify intentionally non-terminating programs that could not be possible time reasonably using KLEE, and it was possible to derive meaningful verification results. Future studies include application to the programs actually used and the theoretical basis of the strategy.

6. Acknowledgment

7. References

[1]   P. Ammann and J. Offutt, Introduction to Software Testing. Cambridge University Press, 2016, pp. 3-8.

[2]   Y. Kim, Y. Kim, Taeksu Kim, Gunwoo Lee, Y. Jang and M. Kim, "Automated unit testing of large industrial embedded software using concolic testing", 28th IEEE/ACM International Conference on Automated Software Engineering (ASE'13), 2013.

[3]   C. Păsăreanu and W. Visser, "A survey of new trends in symbolic execution for software testing and analysis", International Journal on Software Tools for Technology Transfer (STTT'09), vol. 11, no. 4, pp. 339-353, 2009.

[4]   M. Kim, Y. Kim and Y. Jang, "Industrial Application of Concolic Testing on Embedded Software: Case Studies", IEEE Fifth International Conference on Software Testing, Verification and Validation(ICST'12), 2012.

[5]   X. Qu and B. Robinson, "A Case Study of Concolic Testing Tools and their Limitations", International Symposium on Empirical Software Engineering and Measurement (ESEM'11), 2011.

[6]   R. Majumdar and K. Sen, "Hybrid Concolic Testing", 29th International Conference on Software Engineering (ICSE'07), 2007.

[7]   C. Cadar, D. Dunbar and D. R. Engler, "KLEE: Unassisted and Automatic Generation of High-Coverage Tests for Complex Systems Programs", 8th USENIX Symposium on Operating Systems Design and Implementation (OSDI'08), pp. 209-224, 2008.

[8]   T. Kim, J. Park, I. Kulida and Y. Jang, "Concolic Testing Framework for Industrial Embedded Software", 21st Asia-Pacific Software Engineering Conference (APSEC'14), 2014.

[9]   Y. Kim, M. Kim, Y. Kim and U. Jung, "Comparison of Search Strategies of KLEE Concolic Testing Tool", Journal of KIISE:Computing Practices and Letters, vol. 18, no. 4, pp. 321-325, 2012.

[10] M. Papamarcos and J. Patel, "A low-overhead coherence solution for multiprocessors with private cache memories", Proceedings of the 11th annual international symposium on Computer architecture (ISCA'84), 1984.

[11] Sanfilippo, S., Redis. https://redis.io, 2009