

Modern Random Number Generators: Implementation and Statistical Analysis

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***Abstract*—We create several PRNGs and then test them using a common battery of statistical tests.**

***Index Terms*—Random Number Generators, Psuedo Random Number Generators, PRNGs, Statistical Analysis**

REFERENCES

- [1] M. Matsumoto and T. Nishimura, “Mersenne twister: A 623-dimensionally equidistributed uniform pseudo-random number generator,” *ACM Trans. Model. Comput. Simul.*, vol. 8, no. 1, pp. 3–30, Jan. 1998. [Online]. Available: <http://doi.acm.org.proxy2.library.illinois.edu/10.1145/272991.272995>

I. INTRODUCTION

The applications of randomness are far reaching. From statistics to simulation, there is a large need for random number generators to perform quickly, generate seemingly random numbers, yet be reproducible in case something needs to be random yet reproducible. Thus, the creation of pseudo random number generators, or PRNGs, has become a large research area in modeling and computer simulation. In the field of analysis of computing systems, simulation is an extremely important part of the modeling process. Today’s stochastic models become so complex that solving these models analytically becomes impossible. Simulations driven by randomness are common, and motivate the study in this paper.

This is where the rest of the paper will go. [1]

II. CONCLUSION

We anticipate enjoying this project and look forward to reproducing some interesting PRNGs.