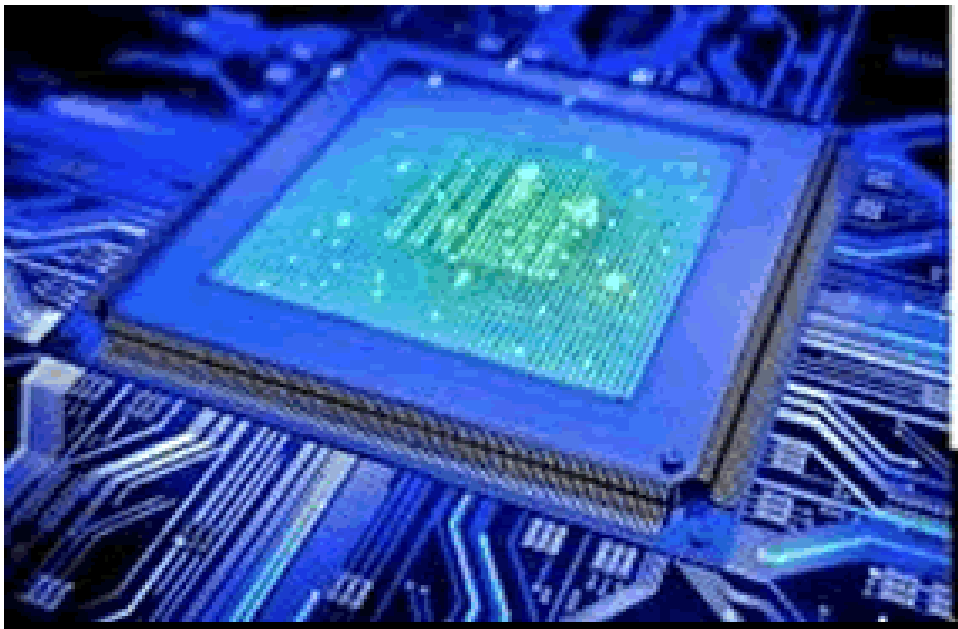

python™

Hardware Verification in Python

A Comprehensive Review

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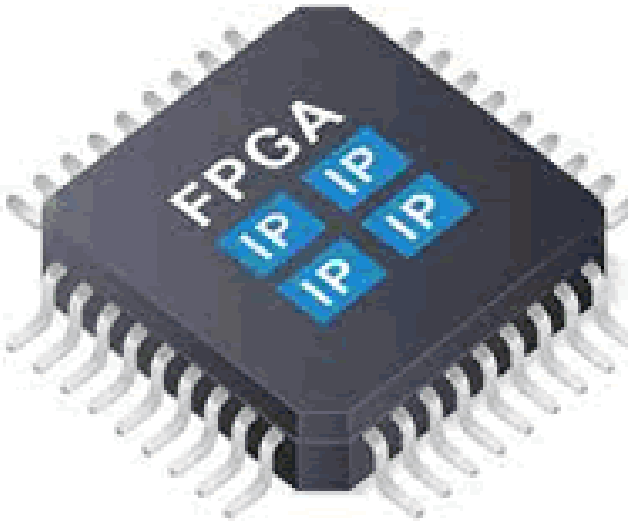

HARDWARE VERIFICATION IN PYTHON

A Comprehensive Review

First Edition

Mark Chen

Angelia Technologies

www.ipcoredesign.net

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PREFACE

I write this book because I cannot find a similar one that can help me grasp a full understanding of how a traditional programming language like Python can be used as a primary verification language, as I previously surmised that verification must be always done with a special language called Hardware Verification Language (HVL), such as SystemVerilog, the e Language, OpenVera and a bunch of others. During my design of IP (Intellectual Property) core, I have met with a number of test scripts, many of them are written in Python and other languages such as Matlab, and even Java. In other words, we don't necessarily have to learn the overly sophisticated verification language of SystemVerilog in order to verify a hardware design, especially for smaller designs.

On other hand, I cannot find a similar book describing in full about the use of Python language and its rich sets of libraries for hardware verification. There you can find various sets of libs here and there sporadically about Python modules used for verification. In my design career, I need to compile a list of all these modules so that I can use them for my present as well as future design and verification projects. And this book is largely the result of my collection work of the designs.

How to Use This Book

This book is provided in PDF format in digital form, no paper work will be produced. We are in digital age, yeah? To save money for publishing, to facilitate the distribution, to save our earth and also to save money for our readers, I refuse to publish anything in paper forms, and I also refuse to let the expensive publishing houses and online platforms to do the same. Traditional printing is gone, forever. At time of self-publishing, we are all our own publishing houses, aren't we?

MC

Nov. 29, 2022