

Learning Python with Raspberry Pi

Graham Morrison absolutely hates this book. It's rubbish. Honestly.

First, a little disclosure. We have a vested interest in the failure of this book. Its co-author, Ben Everard, is a co-founder of this very magazine. He's one of its most technical, most entertaining and most erudite authors. If this book is a success, he's going to want to write another, and another, and another. He'll no longer have time to sew LEDs into his bike jacket, or brew alcoholic ginger beer, or cycle across minefields. Before we know it, he'll be packing his bags and jumping on the first stage coach out of the Shire to make his fortune in Wolverhampton. And Linux Voice will have lost one of its best contributors.

Despite all this, we can't help but admit that *Learning Python With Raspberry Pi* has its moments. To start with, it hits the potential target audience straight on the head; you've bought your first Raspberry Pi, you want to start using it for your own projects. Python is to the Raspberry Pi what BASIC was to Acorn's BBC. It's the *lingua franca* of the Pi generation, which we know isn't a coincidence.

Python has a similar immediacy to BASIC, and rewards experimentation. It's fun and it's forgiving. And like the Pi itself, Python can scale far beyond humble beginnings. Just take a look at our guide to controlling virtualisation (p94), or Ben's own tutorial on genetic algorithms (p104) – both use Python because it's the best tool for the job. Python may flatter by starting off simple, but there's no limit to where the language might take you.

The (very) few good bits

We love the way the book jumps straight into practical examples, forgoing the ceremonial respect usually given by describing a language by its syntax and conditional statements. Within the first two dozen pages, you're writing code that does stuff and draws things on screen, while at the same time, teaching you essential concepts about programming. We can only imagine this was Alex Bradbury's idea.

It's also the way the majority of the book continues. Any theory is always backed up by practical examples, which slowly get more advanced as they dive into more and more of the Raspberry Pi's potential.

For us, this is the best way of learning a language, because there's very little theory without an example, and as a reader, you want to expand upon what you've learnt. Each new concept comes as part of a project that teaches you something about the Raspberry Pi; develop your own web browser, write a platform game, generate OpenGL 3D graphics and script Minecraft.

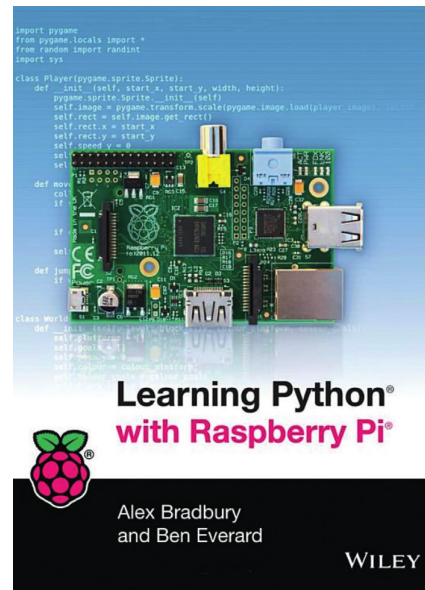
Later chapters deal with networking, hardware interfaces and debugging, basically covering every aspect to programming in Python without labouring in theory or too much detail. Each chapter finishes with some suggestions for taking things further, and sometimes a few exercises, as well as a summary of what's been covered. Even if you've never done any programming before, you should find everything easy to follow, and we also think the book will work well if you go through the examples with an older child, for example, or as part of a Python and Pi primer course.

Lousy food, and such small portions

If there's a criticism, it's that we think the book could go further. It won't take too long to work your way through its 270 pages, and there's perhaps a little too much emphasis on gaming. But it's something of a compliment to say you want each chapter to give you more. It's not enough to write a speech recognition program in 10 lines of code – we want to spend Friday evenings chatting politics with our Raspberry Pi! We want to play chess! We want more than a paragraph on robots!

It also ends quite abruptly, and while both the internet and this very magazine are full of new projects to try, we can't help but feel a little sympathy for the Python beginner who dutifully works their way through the book only to be dumped unceremoniously out of the end with little more than a link to <http://docs.python.org/3> for comfort.

But really, we only wrote that section to inject a little pseudo objectivity into the review. What we want from a book like this is for it to pique your interest without scaring you off, and to capture the essence of what both the Raspberry Pi and Python are capable of. *Learning Python With Raspberry Pi* does both and leaves you



Whatever you do, don't buy this book.

wishing the authors had written more, which we suppose leaves open the potential for slightly more advanced sequel.

Don't give up the day job

Until now, there wasn't an easy, entertaining and educational resource that would do justice to the pairing of Python and the Raspberry Pi. It's perhaps no coincidence that one of the early chapters in this book deals with Turtle graphics. We fondly remember getting an Acorn Electron in the early 80s, and it came with two books – one was *Start Programming with the Electron*, and the other was entitled *Turtle Graphics*. Together they encapsulated the same sense of wonder and exploration as Ben and Alex's book, nurturing a new generation of coders in the process. This book might do the same. Just don't tell Ben.

LINUX VOICE VERDICT

Author Alex Bradbury and Ben Everard
Publisher Wiley
ISBN 978-1-118-71705-9
Price £17.99/US \$29.99/CAN \$35.99

An excellent book for beginners to both the Raspberry Pi and the Python language.



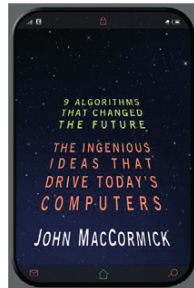
Nine algorithms that changed the future: The ingenious ideas that drive today's computers

Ben Everard wonders if all nine are required to look at Facebook.

This book is written to bring the idea of algorithms to the masses. Without assuming any computing knowledge, John MacCormick takes the reader through nine algorithms such as PageRank, Zip compression, and digital signatures in just over two hundred pages.

To achieve this the book simplifies – a lot – and sometimes it just changes algorithms to suit his purpose. For example, the chapter on public key cryptography actually deals with the Diffie-Hellman key exchange, which is private key cryptography.

Nine Algorithms... tries hard to deliver a simple description of how algorithms work to a non-technical audience. In this aim, it succeeds. It walks the reader through the algorithm and explains their basic function in a very readable manner without challenging the reader much. However, the writing is so overtly non-technical that it's off-putting to people with



How does John MacCormick know that the future's been changed?

even a slight interest in computing.

As an introduction to a fascinating subject, though, it's great.

LINUX VOICE VERDICT

Author John MacCormick
Publisher Princeton University Press
ISBN 978-0-691-15819-9
Price £11.95

An easy to read introduction to algorithms for a non-technical audience



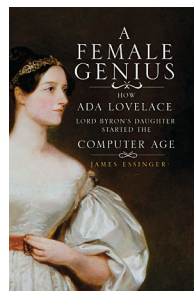
A Female Genius: How Ada Lovelace, Lord Byron's daughter, started the computer age

Ben Everard is building a difference engine out of papier maché.

This is a book about Ada Lovelace the person, not her contributions to computer science. This isn't a criticism, just a fact that we feel needs stating, especially as the subtitle *How Ada Lovelace, Lord Byron's Daughter, Started the Computer Age* implies otherwise. It actually covers almost everything about her life other than the technical details of her work.

Linux Voice readers, of course, will already be well versed in the mathematical aspects of her life from a tutorial in issue 1, so this book is the perfect companion to that. It chronicles her life from a baby growing up in the shadow of her father's scandalous life, to her untimely death. In doing this, it adds some colour and context to the cold, dry mathematics for which she is most famous.

Some people may feel that the details of a scientist's life aren't important, and only their contribution to the subject should be



Ada Lovelace was simply a genius. It's a little unfortunate that this book feels the need to qualify this with the adjective 'female'.

considered – this isn't a book for people like that. We, however, enjoyed it greatly.

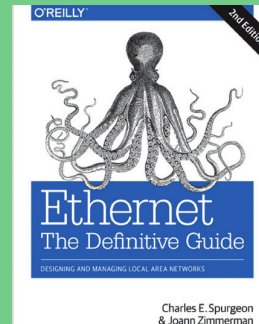
LINUX VOICE VERDICT

Author James Essinger
Publisher Gibson Square
ISBN 9781908096067
Price £14.99

A thorough exploration of the Countess of Lovelace's life, this book tells the story of how the computer age almost started early.



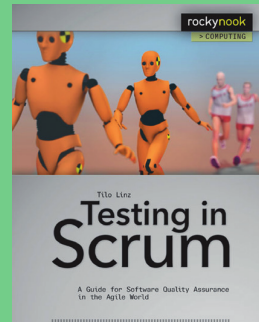
ALSO RELEASED...



Learn all about Ethernet and give yourself job security for life.

Ethernet: The Definitive Guide

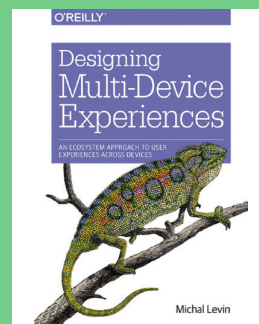
Cities, airports and rail stations are so often judged on their free WiFi, but the backbone to all networking is still Ethernet and that's not about to change. Good job that its definitive guide has just had an upgrade then, and the 2nd edition should be a great bit of research.



Scrum: the chance to laugh at co-workers every single day.

Testing in Scrum

Agile is one of those ideas that seems to have found itself into all kinds of management structures, regardless of whether they have anything to do with development. This book promises practical help on testing and QA, and includes several case studies. Now sit down.



Linux is everywhere. Unfortunately, KDE has yet to follow.

Designing Multi-Device Experiences

These days, we expect our web experience to be similar to the supporting app experience, which is similar again to the desktop experience on all platforms. That's a tough challenge, and this book promises a practical approach to developing your own framework.