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# Building Machine Learning Systems with Python

Master the art of machine learning with Python and build effective machine learning systems with this intensive hands-on guide

Willi Richert Luis Pedro Coelho



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BIRMINGHAM - MUMBAI

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This book would not have been possible without the support of my wife Natalie and my sons Linus and Moritz. I am also especially grateful for the many fruitful discussions with my current and previous managers, Andreas Bode, Clemens Marschner, Hongyan Zhou, and Eric Crestan, as well as my colleagues and friends, Tomasz Marciniak, Cristian Eigel, Oliver Niehoerster, and Philipp Adelt. The interesting ideas are most likely from them; the bugs belong to me. **Luis Pedro Coelho** is a Computational Biologist: someone who uses computers as a tool to understand biological systems. Within this large field, Luis works in Bioimage Informatics, which is the application of machine learning techniques to the analysis of images of biological specimens. His main focus is on the processing of large scale image data. With robotic microscopes, it is possible to acquire hundreds of thousands of images in a day, and visual inspection of all the images becomes impossible.

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Luis started developing open source software in 1998 as a way to apply to real code what he was learning in his computer science courses at the Technical University of Lisbon. In 2004, he started developing in Python and has contributed to several open source libraries in this language. He is the lead developer on mahotas, the popular computer vision package for Python, and is the contributor of several machine learning codes.

I thank my wife Rita for all her love and support, and I thank my daughter Anna for being the best thing ever.

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I would like to thank my wife, Evangeline, for always supporting me. I would also like to thank my friends and family for all that they do to help me. And I would like to thank Jesus Christ for saving me. **Maurice HT Ling** completed his PhD. in Bioinformatics and BSc (Hons) in Molecular and Cell Biology at the University of Melbourne. He is currently a research fellow at Nanyang Technological University, Singapore, and an honorary fellow at the University of Melbourne, Australia. He co-edits the Python papers and has co-founded the Python User Group (Singapore), where he has served as vice president since 2010. His research interests lie in life – biological life, artificial life, and artificial intelligence – using computer science and statistics as tools to understand life and its numerous aspects. You can find his website at: http://maurice.vodien.com

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