How can we capture the unpredictable evolutionary and emergent properties of nature in software? How can understanding the mathematical principles behind our physical world help us to create digital worlds? This book focuses on a range of programming strategies and techniques behind computer simulations of natural systems, from elementary concepts in mathematics and physics to more advanced algorithms that enable sophisticated visual results. Readers will progress from building a basic physics engine to creating intelligent moving
objects and complex systems, setting the foundation for further experiments in generative
design. Subjects covered include forces, trigonometry, fractals, cellular automata, self-
organization, and genetic algorithms. The book's examples are written in Processing, an open-
source language and development environment built on top of the Java programming language. On
the book's website (http://www.natureofcode.com), the examples run in the browser via
Processing's JavaScript mode.

Streaming data is a big deal in big data these days. As more and more businesses seek to tame
the massive unbounded data sets that pervade our world, streaming systems have finally
reached a level of maturity sufficient for mainstream adoption. With this practical guide,
data engineers, data scientists, and developers will learn how to work with streaming data in
a conceptual and platform-agnostic way. Expanded from Tyler Akidau's popular blog posts
"Streaming 101" and "Streaming 102", this book takes you from an introductory level to a
nuanced understanding of the what, where, when, and how of processing real-time data streams.
You'll also dive deep into watermarks and exactly-once processing with co-authors Slava
Chernyak and Reuven Lax. You'll explore: How streaming and batch data processing patterns
compare The core principles and concepts behind robust out-of-order data processing How
watermarks track progress and completeness in infinite datasets How exactly-once data
processing techniques ensure correctness How the concepts of streams and tables form the
foundations of both batch and streaming data processing The practical motivations behind a
powerful persistent state mechanism, driven by a real-world example How time-varying
relations provide a link between stream processing and the world of SQL and relational
algebra

Build your own low-level game engine in Metal! This book introduces you to graphics
programming in Metal - Apple's framework for programming on the GPU. You'll build your own
game engine in Metal where you can create 3D scenes and build your own 3D games. Who This
Book Is For This book is for intermediate Swift developers interested in learning 3D graphics
or gaining a deeper understanding of how game engines work. Topics Covered in Metal by
Tutorials The Rendering Pipeline: Take a deep dive through the graphics pipeline. 3D Models: Import 3D models with Model I/O and discover what makes up a 3D model. Coordinate Spaces: Learn the math behind 3D rendering. Lighting: Make your models look more realistic with simple lighting techniques. Textures & Materials: Design textures and surfaces for micro detail. Character Animation: Bring your 3D models to life with joints and animation. Tessellation: Discover how to use tessellation to add a greater level of detail using fewer resources. Environment: Add a sky to your scenes and use the sky image for lighting. Instancing & Procedural Generation: Save resources with instancing, and generate scenes algorithmically. Multipass & Deferred Rendering: Add shadows with advanced lighting effects. And more! After reading this book, you'll be prepared to take full advantage of graphics rendering with the Metal framework.

What is the Internet of Things? It's billions of embedded computers, sensors, and actuators all connected online. If you have basic programming skills, you can use these powerful little devices to create a variety of useful systems—such as a device that waters plants when the soil becomes dry. This hands-on guide shows you how to start building your own fun and fascinating projects. Learn to program embedded devices using the .NET Micro Framework and the Netduino Plus board. Then connect your devices to the Internet with Pachube, a cloud platform for sharing real-time sensor data. All you need is a Netduino Plus, a USB cable, a couple of sensors, an Ethernet connection to the Internet—and your imagination. Develop programs with simple outputs (actuators) and inputs (sensors) Learn about the Internet of Things and the Web of Things Build client programs that push sensor readings from a device to a web service Create server programs that allow you to control a device over the Web Get the .NET classes and methods needed to implement all of the book's examples

Fast data ingestion, serving, and analytics in the Hadoop ecosystem have forced developers and architects to choose solutions using the least common denominator—either fast analytics at the cost of slow data ingestion or fast data ingestion at the cost of slow analytics. There is an answer to this problem. With the Apache Kudu column-oriented data store, you can
easily perform fast analytics on fast data. This practical guide shows you how. Begun as an internal project at Cloudera, Kudu is an open source solution compatible with many data processing frameworks in the Hadoop environment. In this book, current and former solutions professionals from Cloudera provide use cases, examples, best practices, and sample code to help you get up to speed with Kudu. Explore Kudu’s high-level design, including how it spreads data across servers. Fully administer a Kudu cluster, enable security, and add or remove nodes. Learn Kudu’s client-side APIs, including how to integrate Apache Impala, Spark, and other frameworks for data manipulation. Examine Kudu’s schema design, including basic concepts and primitives necessary to make your project successful. Explore case studies for using Kudu for real-time IoT analytics, predictive modeling, and in combination with another storage engine.

Essential Natural Language Processing is a hands-on guide filled with everything you need to get started with NLP in a friendly, understandable tutorial. Full of Python code and hands-on projects, each chapter provides a concrete example with practical techniques that you can put into practice right away. By following the numerous Python-based examples and real-world case studies, you’ll apply NLP to search applications, extracting meaning from text, sentiment analysis, user profiling, and more. When you’re done, you’ll have a solid grounding in NLP that will serve as a foundation for further learning. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Provides information on the methods of visualizing data on the Web, along with example projects and code.

Introduction to Data Science: Data Analysis and Prediction Algorithms with R introduces concepts and skills that can help you tackle real-world data analysis challenges. It covers concepts from probability, statistical inference, linear regression, and machine learning. It also helps you develop skills such as R programming, data wrangling, data visualization, predictive algorithm building, file organization with UNIX/Linux shell, version control with
Git and GitHub, and reproducible document preparation. This book is a textbook for a first course in data science. No previous knowledge of R is necessary, although some experience with programming may be helpful. The book is divided into six parts: R, data visualization, statistics with R, data wrangling, machine learning, and productivity tools. Each part has several chapters meant to be presented as one lecture. The author uses motivating case studies that realistically mimic a data scientist’s experience. He starts by asking specific questions and answers these through data analysis so concepts are learned as a means to answering the questions. Examples of the case studies included are: US murder rates by state, self-reported student heights, trends in world health and economics, the impact of vaccines on infectious disease rates, the financial crisis of 2007–2008, election forecasting, building a baseball team, image processing of hand-written digits, and movie recommendation systems. The statistical concepts used to answer the case study questions are only briefly introduced, so complementing with a probability and statistics textbook is highly recommended for in-depth understanding of these concepts. If you read and understand the chapters and complete the exercises, you will be prepared to learn the more advanced concepts and skills needed to become an expert.

Generative design, once known only to insiders as a revolutionary method of creating artwork, models, and animations with programmed algorithms, has in recent years become a popular tool for designers. By using simple languages such as JavaScript in p5.js, artists and makers can create everything from interactive typography and textiles to 3D-printed furniture to complex and elegant infographics. This updated volume gives a jump-start on coding strategies, with step-by-step tutorials for creating visual experiments that explore the possibilities of color, form, typography, and images. Generative Design includes a gallery of all-new artwork from a range of international designers—fine art projects as well as commercial ones for Nike, Monotype, Dolby Laboratories, the musician Bjork, and others.

Processing opened up the world of programming to artists, designers, educators, and beginners. This short book gently introduces the core concepts of computer programming and
working with Processing. Written by the co-founders of the Processing project, Reas and Fry, Getting Started with Processing shows you how easy it is to make software and systems with interactive graphics. If you're an artist looking to develop interactive graphics programs or a programmer on your way to becoming an artist, this book will take you where you want to go. Updated with new material on graphics manipulation, data, and for the latest version of Processing.

Presents an introduction to the open-source electronics prototyping platform.

Processing opened up the world of programming to artists, designers, educators, and beginners. The Processing.py Python implementation of Processing reinterprets it for today's web. This short book gently introduces the core concepts of computer programming and working with Processing. Written by the co-founders of the Processing project, Reas and Fry, along with co-author Allison Parrish, Getting Started with Processing.py is your fast track to using Python's Processing mode.

What can you do with the Raspberry Pi, a $35 computer the size of a credit card? All sorts of things! If you’re learning how to program, or looking to build new electronic projects, this hands-on guide will show you just how valuable this flexible little platform can be. This book takes you step-by-step through many fun and educational possibilities. Take advantage of several preloaded programming languages. Use the Raspberry Pi with Arduino. Create Internet-connected projects. Play with multimedia. With Raspberry Pi, you can do all of this and more. Get acquainted with hardware features on the Pi’s board Learn enough Linux to move around the operating system Pick up the basics of Python and Scratch—and start programming Draw graphics, play sounds, and handle mouse events with the Pygame framework Use the Pi’s input and output pins to do some hardware hacking Discover how Arduino and the Raspberry Pi complement each other Integrate USB webcams and other peripherals into your projects Create your own Pi-based web server with Python.
Getting Started with Google BERT will help you become well-versed with the BERT model from scratch and learn how to create interesting NLP applications. You'll understand several variants of BERT such as ALBERT, RoBERTa, DistilBERT, ELECTRA, VideoBERT, and many others in detail.

This book offers a highly accessible introduction to natural language processing, the field that supports a variety of language technologies, from predictive text and email filtering to automatic summarization and translation. With it, you'll learn how to write Python programs that work with large collections of unstructured text. You'll access richly annotated datasets using a comprehensive range of linguistic data structures, and you'll understand the main algorithms for analyzing the content and structure of written communication. Packed with examples and exercises, Natural Language Processing with Python will help you: Extract information from unstructured text, either to guess the topic or identify "named entities" Analyze linguistic structure in text, including parsing and semantic analysis Access popular linguistic databases, including WordNet and treebanks Integrate techniques drawn from fields as diverse as linguistics and artificial intelligence This book will help you gain practical skills in natural language processing using the Python programming language and the Natural Language Toolkit (NLTK) open source library. If you're interested in developing web applications, analyzing multilingual news sources, or documenting endangered languages -- or if you're simply curious to have a programmer's perspective on how human language works -- you'll find Natural Language Processing with Python both fascinating and immensely useful.

Processing opened up the world of programming to artists, designers, educators, and beginners. The Processing.py Python implementation of Processing reinterprets it for today's web. This short book gently introduces the core concepts of computer programming and working with Processing. Written by the co-founders of the Processing project, Reas and Fry, along with co-author Allison Parrish, Getting Started with Processing.py is your fast track to using Python's Processing mode.
IT was a dark, chilly night in September, 1884. A heavy gloom had descended over the streets of A——, a small town on the Rhine, and was hanging like a black funeral-pall over the dull factory burgh. The greater number of its inhabitants, wearied by their long day's work, had hours before retired to stretch their tired limbs, and lay their aching heads upon their pillows. All was quiet in the large house; all was quiet in the deserted streets. I too was lying in my bed; alas, not one of rest, but of pain and sickness, to which I had been confined for some days. So still was everything in the house, that, as Longfellow has it, its stillness seemed almost audible. I could plainly hear the murmur of the blood, as it rushed through my aching body, producing that monotonous singing so familiar to one who lends a watchful ear to silence. I had listened to it until, in my nervous imagination, it had grown into the sound of a distant cataract, the fall of mighty waters when, suddenly changing its character, the ever growing "singing" merged into other and far more welcome sounds. It was the low, and at first scarce audible, whisper of a human voice. It approached, and gradually strengthening seemed to speak in my very ear. Thus sounds a voice speaking across a blue quiescent lake, in one of those wondrously acoustic gorges of the snow-capped mountains, where the air is so pure that a word pronounced half a mile off seems almost at the elbow. Yes; it was the voice of one whom to know is to reverence; of one, to me, owing to many mystic associations, most dear and holy; a voice familiar for long years and ever welcome: doubly so in hours of mental or physical suffering, for it always brings with it a ray of hope and consolation. "Courage," it whispered in gentle, mellow tones. "Think of the days passed by you in sweet associations; of the great lessons received of Nature's truths; of the many errors of men concerning these truths; and try to add to them the experience of a night in this city. Let the narrative of a strange life, that will interest you, help to shorten the hours of suffering. Give your attention. Look yonder before you!" "Yonder" meant the clear, large windows of an empty house on the other side of the narrow street of the German town. They faced my own in almost a straight line across the street, and my bed faced the windows of my sleeping room. Obedient to the suggestion, I directed my gaze towards them, and what I saw made me for the time being forget the agony of the pain that racked my swollen arm and rheumatical body.
Learn how to use the Processing programming language and environment to create Android applications with ease. This book covers the basics of the Processing language, allowing users to effectively program interactive graphics in 2D and 3D. It also details the application of these techniques to different types of Android devices (smartphones, tablets, wearables and smartwatches). Processing for Android walks you through the steps of taking an initial idea to a final app. With this book, you will be able to write engaging apps with interactive visuals driven by motion and location information obtained from the device’s sensors; including health data from the wearer, like step count and heart rate. An advantage of Processing for Android over more complex programming environments is the ability for users to focus on the interactions and visual output of their code rather than in the implementation details of the Android platform. This book goes through a comprehensive series of hand-on projects, ranging from simple sketches to more complex projects involving sensors and integration with larger apps. It also covers important aspects such as exporting your Processing projects as signed apps are ready to upload to the Google Play store and be share with the world! What You'll Learn Write apps and live wallpapers for smartphones and tablets Design and implement interactive watch faces Create Virtual Reality experiences for Cardboard devices Integrate Processing sketches into larger apps and Android Studio Export projects as completed apps ready to distribute through Google Play Store Who This Book Is For Artists, designers, students, researchers, and hobbyists who are not necessarily Android experts, but are looking to write mobile apps that make creative use of interactive graphics, sensor data, and virtual reality.

Create mobile apps for Android phones and tablets using Processing, the free graphics-savvy language and development environment.

Understand the importance of programming, even if you’ve never programmed before! This book will teach you the basics of programming using the Processing programming language. You will create your own Processing sketches, using personal images, themes, or hobbies that you enjoy. The chapters in the book will demonstrate the process of programming, starting with
formulating an idea, planning, building on past projects, and refining the work, similar to
writing an essay or composing a song. This approach will guide you to make use of logic and
mathematics to produce beautiful effects. The term for program in Processing is sketch,
though the sketches featured in this book are far more than static drawings; they incorporate
interaction, animation, video, audio, and accessing files on the local computer and on the
Web. Technical features are introduced and explained in the context of complete examples:
games (Snake, Hangman, jigsaw, slingshot), making a collage of family images and video clips,
preparing directions for folding an origami model, rotating objects in 3D, and others.
Programming is a fun, creative, expressive pursuit. It requires attention to details and can
be frustrating, but there is very little that compares to the satisfaction of building a
program out of nothing and making it work (or taking an existing program and fixing a
problem, or adding a feature and making it better). Programming 101 is your gateway to making
this happen. What You Will Learn Gain basic programming skills Build fun and creative
programs Use files for making a holiday card Combine videos, images, and graphics in a
Processing sketch Who This Book Is For Anyone who has been thinking about trying programming,
or has tried, but needs more motivation; anyone who wants to learn about the Processing
language.

Learn computer programming the easy way with Processing, a simple language that lets you use
code to create drawings, animation, and interactive graphics. Programming courses usually
start with theory, but this book lets you jump right into creative and fun projects. It's
ideal for anyone who wants to learn basic programming, and serves as a simple introduction to
graphics for people with some programming skills. Written by the founders of Processing, this
book takes you through the learning process one step at a time to help you grasp core
programming concepts. You'll learn how to sketch with code -- creating a program with one a
line of code, observing the result, and then adding to it. Join the thousands of hobbyists,
students, and professionals who have discovered this free and educational community platform.
Quickly learn programming basics, from variables to objects Understand the fundamentals of
computer graphics Get acquainted with the Processing software development environment Create
interactive graphics with easy-to-follow projects. Use the Arduino open source prototyping platform to control your Processing graphics.

Apply the Processing language to tasks involved in computer vision—tasks such as edge and corner detection, recognition of motion between frames in a video, recognition of objects, matching of feature points and shapes in different frames for tracking purposes, and more. You will manipulate images through creative effects, geometric transformation, blending of multiple images, and so forth. Examples are provided. Pro Processing for Images and Computer Vision with OpenCV is a step-by-step training tool that guides you through a series of worked examples in linear order. Each chapter begins with a basic demonstration, including the code to recreate it on your own system. Then comes a creative challenge by which to engage and develop mastery of the chapter's topic. The book also includes hints and tips relating to visual arts, interaction design, and industrial best practices. This book is intended for any developer of artistic and otherwise visual applications, such as in augmented reality and digital effects, with a need to manipulate images, and to recognize and manipulate objects within those images. The book is specifically targeted at those making use of the Processing language that is common in artistic fields, and to Java programmers because of Processing’s easy integration into the Java programming environment. What You'll Learn: Make use of OpenCV, the open source library for computer vision in the Processing environment. Capture live video streams and examine them frame-by-frame for objects in motion. Recognize shapes and objects through techniques of detecting lines, edges, corners, and more. Transform images by scaling, translating, rotating, and additionally through various distortion effects. Apply techniques such as background subtraction to isolate motion of objects in live video streams. Detect and track human faces and other objects by matching feature points in different images or video frames.

Who This Book Is For: Media artists, designers, and creative coders.

If you want to experiment with radio frequency identification (RFID), this book is the perfect place to start. All you need is some experience with Arduino and Processing, the ability to connect basic circuits on a breadboard with jumper wire—and you’re good to go.
You’ll be guided through three hands-on projects that let you experience RFID in action. RFID is used in various applications, such as identifying store items or accessing a toll road with an EZPass system. After you build each of the book’s projects in succession, you’ll have the knowledge to pursue RFID applications of your own. Use Processing to get a sense of how RFID readers behave. Connect Arduino to an RFID reader and discover how to use RFID tags as keys. Automate your office or home, using RFID to turn on systems when you’re present, and turn them off when you leave. Get a complete list of materials you need, along with code samples and helpful illustrations. Tackle each project with easy-to-follow explanations of how the code works.

With p5.js, you can think of your entire Web browser as your canvas for sketching with code! Learn programming the fun way—by sketching with interactive computer graphics! Getting Started with p5.js contains techniques that can be applied to creating games, animations, and interfaces. p5.js is a new interpretation of Processing written in JavaScript that makes it easy to interact with HTML5 objects, including text, input, video, webcam, and sound. Like its older sibling Processing, p5.js makes coding accessible for artists, designers, educators, and beginners. Written by the lead p5.js developer and the founders of Processing, this book provides an introduction to the creative possibilities of today's Web, using JavaScript and HTML. With Getting Started with p5.js, you’ll: Quickly learn programming basics, from variables to objects. Understand the fundamentals of computer graphics. Create interactive graphics with easy-to-follow projects. Learn to apply data visualization techniques. Capture and manipulate webcam audio and video feeds in the browser.

First Processing book on the market. Processing is a nascent technology rapidly increasing in popularity. Links with the creators of Processing will help sell the book.

Beginning Graphics Programming with Processing 3. A guide to creating exciting computer graphics with the popular Processing language. This book aims to teach the Processing programming language to both non-programmers and experienced programmers alike. Using the
Online Library Make Getting Started With Processing A Hands On Introduction To Making Interactive Graphics Make Technology On Your Time

book, anyone can learn to create visually stunning graphics and animations, regardless of prior experience, and how to utilise them in web pages and Android applications. If you are new to programming, this unique book will take you through the fundamentals of graphics and object-oriented programming from first principals using the exciting graphics of the Processing language to bring your programs to life and provide visual feedback of your progress with examples and explanations of all the steps along the way. New and experienced programmers alike will soon be creating stunning static and animated graphics programs using lines, shapes, and color, and interacting with the keyboard and mouse to make exciting, dynamic graphics that change with input from the user before moving on to advanced topics such as: - image manipulation - trigonometry - curve physics - acceleration - 3D graphics. The book concludes with a comprehensive introduction to Processing's Programming Modes that provides concrete examples of using your new-found graphics programming skills. You will learn how to use: - Javascript mode to embed your graphics into web pages - Android mode to create amazing graphics and games for Android devices. The possibilities are truly endless. Welcome to the exciting world of graphics programming!

Getting Started with Soldering not only teaches new makers and experimenters the core principles of soldering, it also functions as an excellent reference and resource for beginners and more advanced makers alike. The book guides readers through the fundamentals of soldering, explains the tools and materials, demonstrates proper techniques, and shows how to fix mistakes or broken connections. It even includes guidance on more advanced techniques such as surface-mount soldering for electronics. From choosing the right soldering iron to making perfect connections, readers will acquire the knowledge and skills needed to form a strong foundation for a lifetime of making. Soldering is a core concept in making, electronics prototyping, and home repairs. The many different types of soldering -- requiring different materials and tools -- are explained with easy-to-follow instructions. Full-color photographs and illustrations throughout create a visually engaging format for learning. Pricing and technical considerations help readers select the best tools for their budgets and needs. Troubleshooting guidelines show how to repair solder connections that have failed from
improper technique or from age

Processing is a free, beginner-friendly programming language designed to help non-programmers create interactive art with code. The SparkFun Guide to Processing, the first in the SparkFun Electronics series, will show you how to craft digital artwork and even combine that artwork with hardware so that it reacts to the world around you. Start with the basics of programming and animation as you draw colorful shapes and make them bounce around the screen. Then move on to a series of hands-on, step-by-step projects that will show you how to: - Make detailed pixel art and scale it to epic proportions - Write a maze game and build a MaKey MaKey controller with fruit buttons - Play, record, and sample audio to create your own soundboard - Fetch weather data from the Web and build a custom weather dashboard - Create visualizations that change based on sound, light, and temperature readings With a little imagination and Processing as your paintbrush, you'll be on your way to coding your own gallery of digital art in no time! Put on your artist’s hat, and begin your DIY journey by learning some basic programming and making your first masterpiece with The SparkFun Guide to Processing. The code in this book is compatible with Processing 2 and Processing 3.

Learn computer programming the easy way with Processing, a simple language that lets you use code to create drawings, animation, and interactive graphics. Programming courses usually start with theory, but this book lets you jump right into creative and fun projects. It's ideal for anyone who wants to learn basic programming, and serves as a simple introduction to graphics for people with some programming skills. Written by the founders of Processing, this book takes you through the learning process one step at a time to help you grasp core programming concepts. You'll learn how to sketch with code -- creating a program with one a line of code, observing the result, and then adding to it. Join the thousands of hobbyists, students, and professionals who have discovered this free and educational community platform. Quickly learn programming basics, from variables to objects Understand the fundamentals of computer graphics Get acquainted with the Processing software development environment Create interactive graphics with easy-to-follow projects Use the Arduino open source prototyping...
platform to control your Processing graphics

Summary Generative Art presents both the technique and the beauty of algorithmic art. The book includes high-quality examples of generative art, along with the specific programmatic steps author and artist Matt Pearson followed to create each unique piece using the Processing programming language. About the Technology Artists have always explored new media, and computer-based artists are no exception. Generative art, a technique where the artist creates print or onscreen images by using computer algorithms, finds the artistic intersection of programming, computer graphics, and individual expression. The book includes a tutorial on Processing, an open source programming language and environment for people who want to create images, animations, and interactions. About the Book Generative Art presents both the techniques and the beauty of algorithmic art. In it, you'll find dozens of high-quality examples of generative art, along with the specific steps the author followed to create each unique piece using the Processing programming language. The book includes concise tutorials for each of the technical components required to create the book's images, and it offers countless suggestions for how you can combine and reuse the various techniques to create your own works. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. What's Inside The principles of algorithmic art A Processing language tutorial Using organic, pseudo-random, emergent, and fractal processes

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The book Lifehack calls "The Bible of business and personal productivity." "A completely revised and updated edition of the blockbuster bestseller from 'the personal productivity guru'"—Fast Company Since it was first published almost fifteen years ago, David Allen’s Getting Things Done has become one of the most influential business books of its era, and the ultimate book on personal organization. “GTD” is now shorthand for an entire way of
approaching professional and personal tasks, and has spawned an entire culture of websites, organizational tools, seminars, and offshoots. Allen has rewritten the book from start to finish, tweaking his classic text with important perspectives on the new workplace, and adding material that will make the book fresh and relevant for years to come. This new edition of Getting Things Done will be welcomed not only by its hundreds of thousands of existing fans but also by a whole new generation eager to adopt its proven principles.

If you're looking to make a career move from programmer to AI specialist, this is the ideal place to start. Based on Laurence Moroney's extremely successful AI courses, this introductory book provides a hands-on, code-first approach to help you build confidence while you learn key topics. You'll understand how to implement the most common scenarios in machine learning, such as computer vision, natural language processing (NLP), and sequence modeling for web, mobile, cloud, and embedded runtimes. Most books on machine learning begin with a daunting amount of advanced math. This guide is built on practical lessons that let you work directly with the code. You'll learn: How to build models with TensorFlow using skills that employers desire The basics of machine learning by working with code samples How to implement computer vision, including feature detection in images How to use NLP to tokenize and sequence words and sentences Methods for embedding models in Android and iOS How to serve models over the web and in the cloud with TensorFlow Serving

A guide to creating computer applications using Microsoft Kinect features instructions on using the device with different operating systems, using 3D scanning technology, and building robot arms, all using open source programming language.

The Raspberry Pi is a credit card-sized computer that plugs into your TV and a keyboard. It is a capable little computer which can be used in electronics projects, and for many of the things that your desktop PC does, like spreadsheets, word processing, browsing the internet, and playing games. It also plays high-definition video. This book takes you step-by-step through many fun and educational possibilities. Take advantage of several preloaded
programming languages. Use the Raspberry Pi with Arduino. Create Internet-connected projects. Play with multimedia. With Raspberry Pi, you can do all of this and more.

Learning Processing, Second Edition, is a friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages. Requiring no previous experience, this book is for the true programming beginner. It teaches the basic building blocks of programming needed to create cutting-edge graphics applications including interactive art, live video processing, and data visualization. Step-by-step examples, thorough explanations, hands-on exercises, and sample code, supports your learning curve. A unique lab-style manual, the book gives graphic and web designers, artists, and illustrators of all stripes a jumpstart on working with the Processing programming environment by providing instruction on the basic principles of the language, followed by careful explanations of select advanced techniques. The book has been developed with a supportive learning experience at its core. From algorithms and data mining to rendering and debugging, it teaches object-oriented programming from the ground up within the fascinating context of interactive visual media. This book is ideal for graphic designers and visual artists without programming background who want to learn programming. It will also appeal to students taking college and graduate courses in interactive media or visual computing, and for self-study. A friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages No previous experience required—this book is for the true programming beginner! Step-by-step examples, thorough explanations, hands-on exercises, and sample code supports your learning curve.

Processing opened up the world of programming to artists, designers, educators, and beginners. The Processing.py Python implementation of Processing reinterprets it for today's web. This short book gently introduces the core concepts of computer programming and working with Processing. Written by the co-founders of the Processing project, Reas and Fry, along with co-author Allison Parrish, Getting Started with Processing.py is your fast track to using Python's Processing mode.
An introduction to the ideas of computer programming within the context of the visual arts that also serves as a reference and text for Processing, an open-source programming language designed for creating images, animation, and interactivity.

If you want to build an enterprise-quality application that uses natural language text but aren’t sure where to begin or what tools to use, this practical guide will help get you started. Alex Thomas, principal data scientist at Wisecube, shows software engineers and data scientists how to build scalable natural language processing (NLP) applications using deep learning and the Apache Spark NLP library. Through concrete examples, practical and theoretical explanations, and hands-on exercises for using NLP on the Spark processing framework, this book teaches you everything from basic linguistics and writing systems to sentiment analysis and search engines. You’ll also explore special concerns for developing text-based applications, such as performance. In four sections, you’ll learn NLP basics and building blocks before diving into application and system building: Basics: Understand the fundamentals of natural language processing, NLP on Apache Stark, and deep learning Building blocks: Learn techniques for building NLP applications—including tokenization, sentence segmentation, and named-entity recognition—and discover how and why they work Applications: Explore the design, development, and experimentation process for building your own NLP applications Building NLP systems: Consider options for productionizing and deploying NLP models, including which human languages to support

"This book introduces you to R, RStudio, and the tidyverse, a collection of R packages designed to work together to make data science fast, fluent, and fun. Suitable for readers with no previous programming experience"

Deep learning methods are achieving state-of-the-art results on challenging machine learning problems such as describing photos and translating text from one language to another. In this new laser-focused Ebook, finally cut through the math, research papers and patchwork descriptions about natural language processing. Using clear explanations, standard Python
libraries and step-by-step tutorial lessons you will discover what natural language processing is, the promise of deep learning in the field, how to clean and prepare text data for modeling, and how to develop deep learning models for your own natural language processing projects.

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