Artificial intelligence with python prateek joshi pdf free

Create real artificial intelligence apps with Python to intelligently interact with the world around you about this book - a step into the wonderful world of intelligent applications using this comprehensive guide - Enter the world of artificial intelligence, explore it and create your own apps - Work through simple but insightful examples that will take you away and work with artificial intelligence anytime, whoever this book is for this book for python developers who want to build real artificial intelligence apps. This book is friendly to Python newcomers, but being familiar with Python would be helpful to play with the code. It will also be useful for experienced Python programmers who want to use artificial intelligence techniques in their existing technology stacks. What you learn - Implement different methods of classification and regression - Understand the concept of clustering and how to use it to automatically segment data, see how to build an intelligent recommendation system, understand the logic of programming and how to use it - Create automatic speech recognition systems, understand the basics of heuristic search and genetic programming - Develop games using artificial intelligence - Learn how to train, learn how to train, and learn how to teach, and learn how to teach, and learn how to teach, and learn how to teach, and learn how to teach, and learn how to teach, and learn how to teach, and learn how to teach, and how to use it. how to use deep learning algorithms and build applications based on it in detailed artificial intelligence is becoming more relevant in today's world, where everything is driven by technology and data. It is widely used in many areas such as search engines, image recognition, robotics, finance and so on. We will study the various real-world scenarios in this book and you will learn about the different algorithms that can be used to create artificial intelligence applications. In this book, you'll learn how to make informed decisions about which algorithms to use in this context. Starting with the basics of artificial intelligence, you will learn how to develop different building blocks using different data collection techniques. You'll see how to implement different algorithms to get the best results, and you'll see how to apply them to real-world scenarios. If you want to add a layer of intelligence to any app based on images, text, stock market or some other form of data, this exciting book about artificial intelligence will certainly be your guide! Style and Approach This very practical book will show you how to implement artificial intelligence. The book contains several examples that allow you to create intelligent applications to meet your organization's needs. In each chapter, we explain the algorithm, implement it, and then create The calendar comes in a corresponding full-color envelope and includes The certificate of authenticity is placed in artificial intelligence with a Python ebook pdf vellum-like envelope. As an added bonus, there is a charming print suitable for design. The seal in this calendar is the Windsor Manor, named after one of Thomas Kincaid's four daughters. Jermaine Greer declares that it's time to get angry again! Modern feminism was the victim of unenlightened complacency, and what began in the sixties as a movement for liberation was what sought and accepted equality. With fiery rhetoric, authoritative insight, outrageous humor and broad debate, Greer shows that while women have indeed been very long over the past thirty years, the notion of our own having it all masked the constant discrimination and exploitation that continues to exist for women in the core areas of health, sex, politics, economics and marketing. Erudite, eccentric, provocative and invigorating, Jermaine Greer once again sets the agenda for the future of feminism. That's all the polemical power that has sold over a million copies of the female eunuch and kept its author at the center of controversy ever since. The Whole Woman was the No 1 Sunday Times bestseller for five weeks when it was first published in 1999, and was hailed by critics as a polemical bomb (Guardian) and as required reading for the thinking of adults around the world. By Prateek Joshi Page Number: 446 Pages Published Date: 27 January 2017 Published: Packt Publishing Limited Publishing Country: Birmingham, Language of the United Kingdom: English ISBN: 9781786464392 Download Link: Click here - download pdf, download torrent, facebook, artificial intelligence with Python fb2, Prateek Joshi e-book, download book, free pdf, e pdfbook, iOS, free ebook, e-book, pocket, download ebook book review, for PC, zip, mobi, read online, Kindle, download torrent of artificial intelligence with Python Pratek Joshi for Mac,rarfb2, download epub, paperback, iPad, for Mac, epub download, iPhone, Graham Greene: Life in Letters Free PDF Get Well with Autopathy Title Artificial Intelligence with Python Author (s) Prateek Joshi Publisher: Packt Publishing - e-book account (January 27, 2017) Hardcover / Paperback 446 pages eBook PDF Language : English ISBN-10: 178646439X ISBN-13: 978-1786464392 Share this: Book Description This book is for Python developers who want to build real artificial intelligence applications. This book is friendly to Python newcomers, but being familiar with Python would be helpful to play with the code. It will also be useful for experienced Python programmers who want to use artificial intelligence techniques in their existing technology stacks. Step into an amazing world apps using this comprehensive guide to enter the world world Intelligence, explore it, and create your own Work applications through simple but insightful examples that will get you up and working with artificial intelligence at any time artificial intelligence becomes more relevant in today's world. Using the capabilities of algorithms, you can create applications that intelligently interact with the world around you, creating intelligent recommendation systems, automatic speech recognition systems, and more. Starting with the basics of AI, you'll move on to learning how to develop building blocks using data collection techniques. Learn how to make informed decisions about which algorithms to use and how to apply them to real-world scenarios. This practical book covers a range of topics, including predictive analysis and deep learning. About the authors Prateek Joshi is an artificial intelligence researcher, published author of five books, and a TEDx speaker. He is the founder of Pluto AI, a Silicon Valley venture capital startup that builds an analytical platform for intelligent water management, backed by deep learning. His work in this area has led to patents, technical demonstrations and scientific work at major IEEE conferences. Reviews, Ratings and Recommendations: Related Book Category: Read and Download Links: Deep Learning With Python (Francois Chollet) Related Books: Artificial Intelligence with Python Credits About The Author About Reviewer www.PacktPub.com Why Subscribe? Customer Feedback Foreword What This Book Covers What You Need for This Book Who Is This Book for Conventions Reader Feedback Support Customers Download An Example Code Download ColorEd Images of this book Errata Piracy Issues 1. Introduction to Artificial Intelligence What is artificial intelligence? Why should we study AI? Applications OF AI Branches AI Definition of Intelligence using Turing Test Creating Machines think how people Building Rational Agents Common Problem Solver Solver Solve problems with GPS Building Intelligent Agents Models Installation Python 3 Installation on Ubuntu Installation on Mac OS X Installation on Windows Installation Packages Downloading Data Summary 2. Classification and regression using controlled learning is controlled compared to uncontrolled learning What is classification? Pre-Recycling Data Binarization Medium Removal Scalability Scalation Normalize Label coding logistics regression classifier Na've Bayes Classifier Matrix Support Vector Machine Classification of Revenue Data by Supporting Vector Machine What is Regression? Create a single variable regressor Building a multivariate regressor to estimate house prices with the help of Support Vector Regressor Summary 3. Predictive Analytics with Ensemble Learning What is Ensemble Learning? Learning models with ensemble learning What are tree solutions? Creating a tree making classifier What are random forests and extremely random forests? Construction of a random forest and Random Forest Confidence Score Measure Predictions Working with Class Imbalance Search for optimal learning parameters using the Search Computing Computing grid is a relative function of the value of predicting traffic using an extremely random scaffolding regressor Summary 4. 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Building a game with artificial intelligence Using search algorithms in games Combinatorial search Minimax algorithm Alpha beta pruning Negamax algorithm Installing easyAI Library Building Bot to play The Last Coin Permanent Building Bot play Tic-Tac-Toe Construction two bots play Connect Four™ against each other Building two bots to play Hexapawn against each other Summary 10. Introducing Natural Language Processing and Installing Tokenization Of TextUal Data Transforming Words into Their Basic Forms using the consequent Transforming Words into Their Basic Forms by using the lemmatization of textual data to pieces Extracting the frequency of terms using the Bag of Words Model Creating a Predictor category Building Gender ID Building Mood Analyzer modeling with Latent Dirichlet Distribution Summary 11. 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Object Detection and Tracking Installation OpenCV Frame are distinguished by tracking objects using colorspaces Object Tracking using background subtraction Building Interactive Object Tracker using the CAMShift optical stream algorithm based on facial recognition tracking and tracking using Haar cascades to detect objects Using integrated images to detect eye detection and tracking resume 14. Artificial Neural Networks Introduction to Artificial Neural Networks Building Neural Network Learning Neural Network Construction Perceptron-based Classifier Building One Layer Of Neural Network Building Multi-Layer Neural Neural Network Building Vector quantifier Analysis of consistent data using periodic neural network imagery of symbols in the optical character recognition database Building optical engine recognition of symbols Summary 15. Strengthening Learning Understanding Is a Prerequisite strengthening learning versus controlled learning real world examples of strengthening learning Building Blocks strengthening learning Creation Environment Building Training Agent Summary 16. Deep learning with convolutionary neural networks What are the convolutionary neural networks? Architecture CNNs Layer Types in CNN Building Perceptron-based Linear Regressor Building a Classification Image using a single layer of neural network Building a classification of images using a convolutional neural network First published: January 2017 Production reference: 1230117 Published by Packt Publishing Ltd. 35 Livry Street Birmingham B3 2PB, United Kingdom. ISBN 978-1-78646-439-2 www.packtpub.com Credits About author Prateek Joshi is an artificial intelligence researcher, published by the author of five books, and a TEDx speaker. He is the founder of Pluto AI, a Silicon Valley venture capital startup that builds an analytical platform

for intelligent water management, backed by deep learning. His work in this area has led to patents, technical demonstrations and scientific work at major IEEE conferences. He has been a guest speaker at technology and entrepreneurship conferences including TEDx, THE FOUNDing, Silicon Valley Deep Learning and Open Silicon Valley. Pratek has also been featured as a guest author in well-known technology magazines. His tech blog (www.prateekjoshi.com) has received over 1.2 million page views from 200 countries and has over 6,600 subscribers. He often writes on topics such as artificial intelligence, Python programming and abstract mathematics. He is an avid programmer and has won many hackathons using a wide range of technologies. He graduated from the University of Southern California with a master's degree in artificial intelligence. He has worked for companies such as Nvidia and Microsoft Research. You can find out more about him on his personal website in www.prateekj.com. About reviewer Richard Marsden has more than 20 years of software development experience. Having started in geophysical research for the oil industry, he has spent the last ten years launching independent software provider Winwaed Software Technology LLC. Winwaed specializes in geospatial tools and applications, including web applications, and manages the website for tools and add-ons for geospatial applications such as Caliper Maptitude and Microsoft MapPoint. Richard was also a technical reviewer of packt publications: Python Geospatial Development and Python Geospatial Analysis Essentials, both by Eric Vestra; Python Geospatial Analysis Cookbook by Michael Diner; Mastering python forensics by Dr. Michael Spritzenbart and Dr. Johann Urmann; and effective python penetration testing by Rejah Rehim. www.PacktPub.com To support files and downloads related to your book, please visit www.PacktPub.com. Did you know that Packt offers e-book versions of each book published, with PDF and ePub files available? You can switch to a version of the book www.PacktPub.com and, as a client of the printed book, you are entitled to a discount on a copy of the book. Contact us for service@packtpub.com more details. In www.PacktPub.com you can also read a collection of free technical articles, subscribe to a number of free newsletters and get exclusive discounts and on Packt books and e-books. get the most sought after software skills with Mapt. Mapt gives you full access all Packt books and video courses, as well as industry-leading tools to help you plan your personal development and advance your career. Why subscribe? Completely searched for each book published by Packt Copy and Paste, print and bookmark content on demand and are available through the web browser Customer Reviews Thanks for buying this book Packt. We take seriously our commitment to improve our content and products to meet your needs, which is why your feedback is so valuable. Regardless of your feelings about buying, please consider withdrawing from the review on the Amazon page of this book. This will not only help us, but will also help others in the community make an informed decision about the resources they invest in to learn. You can also review regularly for us by joining our reviewers' club. If you are interested in joining, or would like to know more about the benefits that we offer, please contact us: customerreviews@packtpub.com. The foreword of Artificial Intelligence is becoming more and more relevant in today's world, where everything is driven by data and automation. It is widely used in many areas such as image recognition, robotics, search engines and self-driving cars. In this book we will study different real-world scenarios. We will understand which algorithms to use in this context and write functional code with this exciting book. Let's start with the fact that we will talk about different areas of artificial intelligence. Then we move on to discussing more complex algorithms, such as extremely random forests, hidden Markov models, genetic algorithms, artificial neural networks, convolutionary neural networks, and so on. This book is for Python programmers wanting to use artificial intelligence algorithms to create real applications. This book is friendly to Python newcomers, but familiarity with Python programming will certainly be useful, so you can play with the code. It's also useful for experienced Python programmers who want to implement artificial intelligence techniques. You'll learn how to make informed decisions about the type of algorithms you need to use and how to implement those algorithms to get the best results. If you want to create a universal application that can make sense of images, text, speech, or some other form of data, this book on artificial intelligence will certainly come to your aid! That this book covers Chapter 1, An Introduction to Artificial Intelligence, teaches you different introductory concepts in artificial intelligence. It tells the story of applications, branches and artificial intelligence simulations. It walks the reader through the installation of the necessary Python packages. Chapter 2, Classification and The use of controlled learning covers various controlled learning methods for classification and regression. You'll learn income data and forecast house prices. Chapter 3, Predictive Analytics with Ensemble Learning, explains the techniques of predictive modeling using ensemble learning, particularly focused on random scaffolding. We will learn to use these methods to predict traffic on the roads near sports stadiums. Chapter 4, Detection of Patterns With Uncontrolled Learning, covers uncontrolled learning algorithms, including K-media and medium shift cluster. We will learn how to apply these algorithms to stock market data and customer segmentation. Chapter 5, Building Recommendation Systems, illustrates the algorithms used to create recommendation engines. You'll learn how to apply these algorithms to collaborative filtering and movie recommendations. Chapter 6, Logical Programming, covers the building blocks of logical programming. We'll see a variety of applications, including expression matching, parsing family trees, and solving puzzles. Chapter 7, a method of cheristic search, shows the herististic search methods that are used to find a solution to space. We learn about various applications, such as imitation of ananil, region coloring and maze solution. Chapter 8, Genetic Algorithms, covers evolutionary algorithms and genetic programming. We learn about different concepts such as crossover, mutations and fitness functions. We will then use these concepts to solve the problem of character regression and create an intelligent robot controller. Chapter 9, Building a Game with Artificial Intelligence, teaches you how to build games with artificial intelligence. We will learn how to create a variety of games including Tic Tac Toe, Connect Four and Hexapawn. Chapter 10, Natural Language Processing, covers the methods used to analyze textual data, including tokenization, flowing, word bag, and so on. We will learn to use these techniques to analyze moods and model topics. Chapter 11, Probability Reasoning for Consecutive Data, shows you the techniques used to analyze the time of the series and sequential data, including hidden Markov models and conditional random fields. We'll learn how to apply these techniques to analyze the sequence of text and stock market forecasts. Chapter 12, Speech Recognition Creation, demonstrates the algorithms used to analyze speech data. We will learn how to create speech recognition systems. Chapter 13, Object Detection and Tracking, covers algorithms related to object detection and live video tracking. We learn about a variety of techniques, including optical flow, facial tracking, and eye tracking. Chapter 14, Artificial Neural Networks, covers the algorithms used to create neural networks. We will learn to create an optical system for recognizing symbols with neural networks. Chapter 15, Strengthening Learning, teaches the techniques used to create a reinforcement training system. We will learn to create training agents who can learn to learn interacting with the environment. Chapter 16, Deep Learning with Convolutional Neural Networks, covers the algorithms used to create deep learning systems using convolutionary neural networks. We will learn how to use TensorFlow to create neural networks. We will then use it to create a classification of images using enterative neural networks. What you need for this book This book focuses on artificial intelligence in Python, unlike Python itself. We used Python 3 to create a variety of applications. We focus on how to use python's different libraries in the best way possible to create real-world applications. In this spirit, we have tried to keep the entire code as friendly and readable as possible. We believe this will allow our readers to easily understand the code and easily use it in different scenarios. Who is this book for this book for Python developers who want to build real artificial intelligence applications. This book is friendly to Python newcomers, but being familiar with Python would be helpful to play with the code. It will also be useful for experienced Python programmers who want to use artificial intelligence techniques in their existing technology stacks. Conventions in this book, you will find a number of text styles that distinguish different types of information. Here are some examples of these styles and an explanation of their meaning. Code words in the text, database table names, folder names, file names, file extensions, path names, bogus URLs, user input and Twitter handles are displayed as follows: We can include other contexts using the inclusion directive. The code block is set as follows: default exten s,1,Dial (zap/1'30) exten s,2,Voicemail (u100) exten s,102,Voicemail (b100) exten i,1,Voicemail (s0) When we want to draw your attention to a certain part of the code block, corresponding lines or elements are configured in bold: default exten s,1,Dial /1' 30) exten s,2,Voicemail (u100) exten s,102,Voicemail (b100) exten i,1,Voicemail (s0) Any command-writing line or output written as follows: cp/usr/src/asterisk-addons/configs/cdr_mysql.conf.sample/etc/asterisk/cdr_mysql.conf New terms and important words are shown in bold. The words you see on the screen, such as in menus or dialog boxes, are displayed in the text: the labels in this book are based on the Mac OS X 10.5 diagram. Note warnings or important notes appear in a box like this. Tips tips and tricks appear like this. Feedback readers Feedback from our readers is always welcome. Let us know what you think about this book-that you loved or disliked. Reader feedback is important to us because it helps us develop the titles that you get most of it out. To send us general reviews, just feedback@packtpub.com by email and mention the title of the book in the subject of your message. If If this is a topic in which you have experience and you are interested in writing or contributing to the book, www.packtpub.com/authors see Customer Support Now that you are a proud book owner Packt, we have a number of things that will help you get the most out of your purchase. 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The information you need will appear in the Errata section. Piracy of copyrighted material on the Internet is an ongoing problem in all media. In Packt we accept and the licenses are very serious. If you have stumbled upon any illegal copies of our work in any form on the Internet, please provide us with a location address or website name immediately so we can continue the remedy. Please contact the copyright@packtpub.com at least with reference to the alleged pirated material. We appreciate your help in protecting our authors and our ability to bring you valuable content. Issues If you have a problem with any aspect of this book, you can contact us on questions@packtpub.com and we will do our best to address this issue. Chapter 1. Introduction to Artificial Intelligence In this chapter, we are going to discuss the concept of artificial intelligence (AI) and how it is applied in the real world. We spend a significant part of our daily lives interacting with intelligent systems. This can be in the form of searching for something on the Internet, biometric facial recognition, or converting spoken words into text. Artificial intelligence is at the heart of it all, and it's becoming an important part of our modern way of life. All of these systems are complex real applications and artificial intelligence solves these problems with math and algorithms. In this book, we will explore the basic principles that are used to create such applications and then implement them. Our main goal is to give you the opportunity to deal with new and complex problems of artificial intelligence that you may encounter in everyday life. By the end of this chapter, you will know: what is AI and why should we study it? Applications AI Branches AI Turing Test Rational Agents Common Problems Solvers Building Intelligent Agent Installing Python 3 on various operating systems Installing necessary Python packages What is artificial intelligence? Artificial intelligence (AI) is a way to make machines think and behave intelligently. These machines are controlled by the software inside them, so AI has a lot to do with the smart software that controls these machines. It is the science of finding theories and methodologies that can help machines understand the world and respond appropriately to situations in the same way as humans. If we take a closer look at how the AI area has emerged over the past couple of decades, you'll see that different researchers tend to focus on different concepts to define AI. In today's world, AI is used in many verticals in various forms. We want machines to feel, reason, think and act. We want our machines to be rational, too. AI is closely related to the study of the human brain. Researchers believe that AI can be achieved by understanding how the human brain works. Mimicking how the human brain learns, thinks, and accepts We can build a machine that can do the same. This can be used as a platform to develop intelligent systems that Training. Why should we study AI? AI is capable of influencing every aspect of our lives. The AI area is trying to understand the patterns and behavior of entities. With AI, we want to create intelligent systems and understand the concept of intelligence. The intelligent systems that we build are very useful for understanding how an intelligent system like our brain is about creating another intelligent system. Let's see how our brain processes information: Compared to some other areas, such as mathematics or physics, that have been around for centuries, AI is relatively in its infancy. Over the past couple of decades, AI has released some impressive products such as self-driving cars and intelligent robots that can walk. Based on the direction in which we are moving, it is pretty obvious that the achievement of intelligence will have a big impact on our lives in the years to come. We can't help but wonder how the human brain manages to do so much with such easy ease. We can recognize objects, understand languages, learn new things, and perform many more complex tasks with our brains. How does the human brain do that? When you try to do this with the machine, you will see that it lags behind! For example, when we try to look for things like extraterrestrial life or time travel, we don't know if these things exist. The good thing about the holy grail of AI is that we know it exists. Our brains are the holy grail! This is an impressive example of an intelligent system. All we have to do is mimic its functionality to create an intelligent system that can do something similar, perhaps even more. Let's see how raw data is translated into wisdom through different levels of processing: One of the main reasons we want to study AI is to automate many things. We live in a world where: We are dealing with huge and insurmountable amounts of data. The human brain can't track so much data. The data comes from multiple sources at the same time. The data is disorganized and chaotic. The knowledge gained from this data must be constantly updated, as the data itself is constantly changing. Sensing and activation should take place in real time with high accuracy. Despite the fact that the human brain perfectly analyzes the things around us, it can not keep up with the previous conditions. Therefore, we need to develop and develop intelligent machines that can do this. We need artificial intelligence systems that can efficiently process large amounts of data. With the advent of cloud computing, we can now store huge amounts of data. Ingest data is simultaneously from multiple sources without any delay. Indexing and Data in the artificial intelligence with python prateek joshi free pdf. artificial intelligence with python prateek joshi free download