Over 70 Recipes For Building AI Solutions For Smart Homes, Industrial IoT, And More

Smart homes and Industrial Internet of Things (IoT) have revolutionized the way we interact with our surroundings. From controlling lights and appliances with a voice command to monitoring complex manufacturing processes, AI-powered solutions have made our lives easier and businesses more efficient.

However, building AI solutions for these domains can be challenging. Luckily, there are numerous recipes available to guide developers in creating smart home and IoT applications. This article explores over 70 such recipes that will empower you to build intelligent solutions for your projects.

1. Recipe for Smart Home Automation

Transform your ordinary home into a smart home with these AI-driven recipes. From controlling devices using voice assistants to creating customized schedules, these recipes will make your life more comfortable and convenient.

Artificial Intelligence for IoT Cookbook: Over 70 recipes for building AI solutions for smart homes, industrial IoT, and smart cities

by Michael Roshak (1st Edition, Kindle Edition)

★★★★☆ 4.9 out of 5

Language	: English
File size	: 12615 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Print length	: 260 pages

Recipe 1: Voice commands for controlling lights

Recipe 2: Setting up a smart thermostat

Recipe 3: Automated blinds and curtains

Recipe 4: Smart security systems

Recipe 5: Voice-activated garage door

2. Recipe for Industrial IoT Solutions

The Industrial Internet of Things (IIoT) is revolutionizing the manufacturing and industrial sectors. These recipes will help you build AI-powered solutions to optimize production processes, monitor equipment health, and improve overall efficiency.

Recipe 1: Predictive maintenance for machinery

Recipe 2: Real-time asset tracking

Recipe 3: Quality control using computer vision

Recipe 4: Energy monitoring and optimization

Recipe 5: Warehouse automation

3. Recipe for Smart Agriculture

In the era of climate change and resource scarcity, smart agriculture plays a crucial role in sustainable food production. These recipes focus on leveraging AI and IoT technologies to improve crop yield, monitor soil conditions, and optimize irrigation.

Recipe 1: Automated irrigation based on soil moisture levels

Recipe 2: Crop disease detection using image analysis

Recipe 3: Smart pest control

Recipe 4: Livestock monitoring and health management

Recipe 5: Weather forecasting for precision farming

4. Recipe for Healthcare AI Solutions

AI is transforming the healthcare industry by enhancing patient care, enabling precise diagnoses, and improving research and development. These recipes guide you in building AI solutions for healthcare applications.

Recipe 1: AI-powered chatbots and virtual assistants

Recipe 2: Personalized medicine and treatment recommendations

Recipe 3: Machine learning for medical imaging analysis

Recipe 4: Early disease detection algorithms

Recipe 5: Remote patient monitoring with wearable devices

5. Recipe for AI in Transportation

Transportation and logistics heavily rely on AI solutions to optimize routes, reduce fuel consumption, and enhance fleet management. These recipes provide valuable insights into leveraging AI for the transportation sector.

Recipe 1: Intelligent route planning and optimization

Recipe 2: Autonomous vehicle control

Recipe 3: Real-time traffic analysis

Recipe 4: Predictive maintenance for transport fleets

Recipe 5: AI-based driver behavior monitoring

Building AI solutions for smart homes, Industrial IoT, and other domains is a complex task. However, with over 70 recipes in your arsenal, you have a comprehensive guide to embark on your development journey. Whether you are a professional developer or an enthusiast, these recipes will empower you to create intelligent and transformative solutions in various sectors.

So dive in, experiment, and unlock the potential of AI for your projects. The future of smart technology begins with you!

Artificial Intelligence for IoT Cookbook: Over 70 recipes for building AI solutions for smart homes, industrial IoT, and smart cities

by Michael Roshak (1st Edition, Kindle Edition)

★★★★☆ 4.9 out of 5

Language	: English
File size	: 12615 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled

Print length   : 260 pages

Implement machine learning and deep learning techniques to perform predictive analytics on real-time IoT data

Key Features

- Discover quick solutions to common problems that you'll face while building smart IoT applications

- Implement advanced techniques such as computer vision, NLP, and embedded machine learning

- Build, maintain, and deploy machine learning systems to extract key insights from IoT data

Book Description

Artificial intelligence (AI) is rapidly finding practical applications across a wide variety of industry verticals, and the Internet of Things (IoT) is one of them. Developers are looking for ways to make IoT devices smarter and to make users' lives easier. With this AI cookbook, you'll be able to implement smart analytics using IoT data to gain insights, predict outcomes, and make informed decisions, along with covering advanced AI techniques that facilitate analytics and learning in various IoT applications.

Using a recipe-based approach, the book will take you through essential processes such as data collection, data analysis, modeling, statistics and monitoring, and deployment. You'll use real-life datasets from smart homes, industrial IoT, and smart devices to train and evaluate simple to complex models

and make predictions using trained models. Later chapters will take you through the key challenges faced while implementing machine learning, deep learning, and other AI techniques, such as natural language processing (NLP), computer vision, and embedded machine learning for building smart IoT systems. In addition to this, you'll learn how to deploy models and improve their performance with ease.

By the end of this book, you'll be able to package and deploy end-to-end AI apps and apply best practice solutions to common IoT problems.

What you will learn

- Explore various AI techniques to build smart IoT solutions from scratch

- Use machine learning and deep learning techniques to build smart voice recognition and facial detection systems

- Gain insights into IoT data using algorithms and implement them in projects

- Perform anomaly detection for time series data and other types of IoT data

- Implement embedded systems learning techniques for machine learning on small devices

- Apply pre-trained machine learning models to an edge device

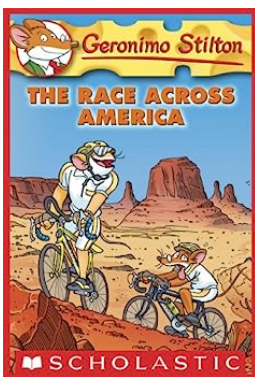- Deploy machine learning models to web apps and mobile using TensorFlow.js and Java

Who this book is for

If you're an IoT practitioner looking to incorporate AI techniques to build smart IoT solutions without having to trawl through a lot of AI theory, this AI IoT book is for you. Data scientists and AI developers who want to build IoT-focused AI solutions will also find this book useful. Knowledge of the Python programming language

and basic IoT concepts is required to grasp the concepts covered in this artificial intelligence book more effectively.
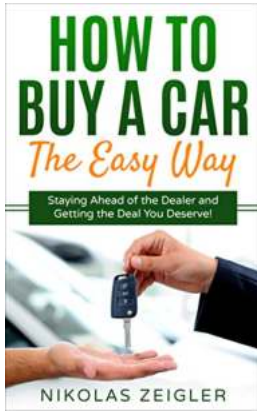
Table of Contents

The Race Across America: Geronimo Stilton 37

Geronimo Stilton, the renowned mouse reporter, is back with another thrilling adventure! In his latest ...

How To Buy a Car The Easy Way - Expert Tips and Advice

Are you ready to buy a car but feeling overwhelmed by the entire process? Don't worry, you're not alone. Purchasing a car can be a complex task, but with the right approach...
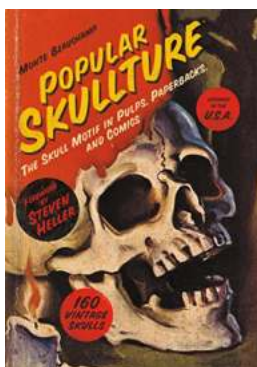
AAM: All About Me: A Chai House Novella (The Chai House 2)

Imagine a cozy little house tucked away in the vibrant streets of an enchanting city. Inside, the scent of freshly brewed chai tea lingers in the air, mixing with whispers...

The Surprisingly Beneficial and Irresistibly Tasty World of Healthy Coffee

Do you ever find yourself craving that rich aroma and comforting warmth of a fresh cup of coffee to kickstart your day? If so, you're not alone. Coffee has become a staple in...

The Dark and Delightful World of Popular Skullture: Unearthing Monte Beauchamp's Macabre Fantasies

When it comes to embracing the macabre, few artists possess the unique ability to blend horror, humor, and history as seamlessly as Monte Beauchamp. As an author, editor, and...

Unlocking Success in the Dance Industry: Your Ultimate Guide to Flourishing on the Dance Floor!

Are you passionate about dance? Do you dream of making it big in the dance industry? Whether you are an aspiring dancer, choreographer, or dance entrepreneur, this ultimate...

A Mysterious Encounter: Roswell Albuquerque Santa Fe And Taos July 2003

July 2003... a summer that remains etched in the memories of those who witnessed a chain of unexplainable events across the picturesque landscapes of Roswell,...

My First Swedish Tools In The Shed Picture With English Translations

Have you ever come across a picture that instantly captivates your attention and sparks your curiosity? Well, that's exactly what happened to me when I stumbled upon my...