

# Learning Node Moving To The Server Side

This is an advanced, practical guide to harnessing the power of Node.js by creating 6 full-scale real-world projects, from creating a chat application to an eLearning system. Key Features Develop scalable and lightweight applications using Node.js Learn how to interface Node.js with other popular technologies such as MongoDB, MySQL, and more Your companion to master the Node ecosystem through six real-world projects Book Description With its event-driven architecture and efficient web services capabilities, more and more companies are building their entire infrastructure around Node.js. Node has become a de facto part of web development that any serious developer needs to master. This book includes six Node.js projects that gradually increase in complexity. You'll start by building a simple web server and create a basic website. You will then move to create the login system, blog system, chat system, and e-learning system. By creating and following the example projects in this book, you'll improve your Node.js skills through practical working projects, and you'll learn how to use Node.js with many other useful technologies, such as ExpressJS, Kickstart, and Heroku. What you will learn Create powerful applications using Node.js Build scalable and lightweight web applications Use the Express Framework to build web applications Understand the coding principles behind practical web applications Understand the concepts of network programming Use Node.js with other technologies including Kickstart and Heroku Use Node with database technologies Cassandra and MongoDB Who this book is for If you are a web developer or a student who wants to learn about Node.js in a hands-on manner, this book will be perfect

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for you. A basic understanding of HTML, JavaScript, and some front-end programming experience is required. Given the demand for AI and the ubiquity of JavaScript, TensorFlow.js was inevitable. With this Google framework, seasoned AI veterans and web developers alike can help propel the future of AI-driven websites. In this guide, author Gant Laborde--Google Developer Expert in machine learning and the web--provides a hands-on end-to-end approach to TensorFlow.js fundamentals for a broad technical audience that includes data scientists, engineers, web developers, students, and researchers. You'll begin by working through some basic examples in TensorFlow.js before diving deeper into neural network architectures, DataFrames, TensorFlow Hub, model conversion, transfer learning, and more. Once you finish this book, you'll know how to build and deploy production-ready deep learning systems with TensorFlow.js. Explore tensors, the most fundamental structure of machine learning Convert data into tensors and back with a real-world example Combine AI with the web using TensorFlow.js Use resources to convert, train, and manage machine learning data Build and train your own training models from scratch

Demonstrates the remarkable similarities between Node.js and PHP, and teaches readers how to port an entire PHP web application to Node.js.

Learn how to build dynamic web applications with Express, a key component of the Node/JavaScript development stack. In this hands-on guide, author Ethan Brown teaches you the fundamentals through the development of a fictional application that exposes a public website and a RESTful API. You'll also learn web architecture best practices to help you build single-page, multi-page, and hybrid web apps with Express. Express strikes a balance between a robust framework and no framework at all, allowing you a free hand

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in your architecture choices. With this book, frontend and backend engineers familiar with JavaScript will discover new ways of looking at web development. Create webpage templating system for rendering dynamic data Dive into request and response objects, middleware, and URL routing Simulate a production environment for testing and development Focus on persistence with document databases, particularly MongoDB Make your resources available to other programs with RESTful APIs Build secure apps with authentication, authorization, and HTTPS Integrate with social media, geolocation, and other third-party services Implement a plan for launching and maintaining your app Learn critical debugging skills This book covers Express 4.0. Take your web development skills from browser to server with Node and learn how to write fast, highly scalable network applications on this JavaScript-based platform. Updated for the latest Node Long Term Support (LTS) and Node Current (6.0) releases, this hands-on edition helps you master Node's core fundamentals and gain experience with several built-in and contributed modules. Get up to speed on Node's event-driven, asynchronous I/O model for developing data-intensive applications that are frequently accessed but computationally simple. If you're comfortable working with JavaScript, this book provides many programming and deployment examples to help you take advantage of server-side development with Node. Explore the frameworks and functionality for full-stack Node development Dive into Node's module system and package management support Test your application or module code on the fly with Node's REPL console Use core Node modules to build web applications and an HTTP server Learn Node's support for networks, security, and sockets Access operating system functionality with child processes Learn tools and techniques for Node development and production Use Node in microcontrollers, microcomputers,

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and the Internet of Things"

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Learning Node.js brings together the knowledge and JavaScript code needed to build master the Node.js platform and build server-side applications with extraordinary speed and scalability. You'll start by installing and running Node.js, understanding the extensions it uses, and quickly writing your first app. Next, building on the basics, you'll write more capable application servers and extend them with today's most powerful Node.js tools and modules. Finally, you'll discover today's best practices for testing, running Node.js code on production servers, and writing command-line utilities. Throughout the book, author Marc Wandschneider teaches by walking the reader line-by-line through carefully crafted examples, demonstrating proven techniques for creating highly efficient applications and servers. The second edition updates coverage of Node.js to reflect changes in the technology and how it is used in the three years since the first edition was published:

- Explanation of Node's new versioning scheme
- Updated coverage of Streams
- New coverage of installation using pre-build installers rather than from source code
- New coverage of Mongoose in the section on MongoDB
- New information about deploying Node on Heroku and Azure
- Expansion of coverage on testing

If you're a developer who wants to build server-side web applications with Node.js, Learning Node.js is your fastest route to success. Build Node.js solutions that leverage current JavaScript skills

- Master Node.js nonblocking IO and async programming
- Handle more requests and increase an application's flexibility
- Use and write modules
- Perform common JSON/web server tasks
- Use browsers to generate pages on the fly via Ajax calls and template libraries
- Simplify development with the

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Express framework Create database back-ends using popular NoSQL and relational databases Deploy and run Node.js apps on Unix/macOS or Windows servers Deploy apps to Heroku and Microsoft Azure Support virtual hosts and SSL/HTTPS security Test Node.js programs that mix synchronous, async, and RESTful server API functionality How can we build bridges from the digital world of the Internet to the analog world that surrounds us? By bringing accessibility to embedded components such as sensors and microcontrollers, JavaScript and Node.js might shape the world of physical computing as they did for web browsers. This practical guide shows hardware and software engineers, makers, and web developers how to talk in JavaScript with a variety of hardware platforms. Authors Patrick Mulder and Kelsey Breseman also delve into the basics of microcontrollers, single-board computers, and other hardware components. Use JavaScript to program microcontrollers with Arduino and Espruino Prototype IoT devices with the Tessel 2 development platform Learn about electronic input and output components, including sensors Connect microcontrollers to the Internet with the Particle Photon toolchain Run Node.js on single-board computers such as Raspberry Pi and Intel Edison Talk to embedded devices with Node.js libraries such as Johnny-Five, and remotely control the devices with Bluetooth Use MQTT as a message broker to connect devices across networks Explore ways to use robots as building blocks for shared experiences

If you want to learn how to build efficient user interfaces with React, this is your book. Authors Alex Banks and Eve Porcello show you how to create UIs with this small JavaScript library that can deftly display data changes on large-scale, data-driven websites without page reloads. Along the way, you'll learn how to work with functional programming and the latest ECMAScript features. Developed

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by Facebook, and used by companies including Netflix, Walmart, and The New York Times for large parts of their web interfaces, React is quickly growing in use. By learning how to build React components with this hands-on guide, you'll fully understand how useful React can be in your organization. Learn key functional programming concepts with JavaScript Peek under the hood to understand how React runs in the browser Create application presentation layers by mounting and composing React components Use component trees to manage data and reduce the time you spend debugging applications Explore React's component lifecycle and use it to load data and improve UI performance Use a routing solution for browser history, bookmarks, and other features of single-page applications Learn how to structure React applications with servers in mind

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This is a hands-on book which introduces you to agile JavaScript web and mobile software development using the latest cutting-edge front-end and back-end technologies including: Node.js, MongoDB, Backbone.js, Parse.com, Heroku and Windows Azure. Practical examples include building multiple versions of the Chat app:•jQuery + Parse.com JS REST API•Backbone and Parse.com JS SDK•Backbone and Node.js•Backbone and Node.js + MongoDB The Chat application has all the foundation of a typical web/mobile application: fetching data, displaying it, submitting new data. Other examples in the book are as follows:•jQuery + Twitter RESP API “Tweet Analyzer”•Parse.com “Save John”•MongoDB “Print Collections”•Backbone.js “Apple Database”•Monk + Express.js “REST API Server” This book will save you many hours by providing a hand-

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picked and tested collection of quick start guides. RPJS has practical examples that allow to spend less time learning and more time building your own applications. Prototype fast and ship code that matters! What You will Learn: You should expect a basic understanding from a collection of quick start guides, tutorials and suggestions for the development apps discussed in this book. In addition to coding examples, the book covers virtually all setup and deployment step-by-step. You'll learn from the examples of Chat web/mobile applications starting with front-end components and by the end we'll put front-end and back-end together and deploy to the production environment. Who This Book is For: The typical programmer who wants to learn more about effective JavaScript coding.

Master the Node.js runtime beyond the basic usage  
Topics Covered: Node.js Fundamentals Built-in Modules Requiring Modules Using and Implementing Streams Child Processes The Node Cluster Module Scaling Node.js Applications

Manage and understand the full capabilities of successful REST development. REST API development is a hot topic in the programming world, but not many resources exist for developers to really understand how you can leverage the advantages. This completely updated second edition provides a brief background on REST and the tools it provides (well known and not so well known), then explains how there is more to REST than just JSON and URLs. You will learn about the maintained modules currently available in the npm community, including Express, Restify, Vatican, and

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Swagger. Finally you will code an example API from start to finish, using a subset of the tools covered. The Node community is currently flooded with modules; some of them are published once and never updated again - cluttering the entire universe of packages. Pro REST API Development with Node.js shines light into that black hole of modules for the developers trying to create an API. Understand REST API development with Node.js using this book today. What You'll Learn Understand how REST and API development mix up with Node.js Create a scalable, technology agnostic, and uniform interface Prepare your services to be consumed by your clients Test and deploy your API Review troubleshooting techniques Who This Book Is For Any Node.js developer who wants to fully understand REST API development. Beginner and Intermediate Node.js developers who are looking to fully understand how to create RESTful microservices.

Beginning Node.js is your step-by-step guide to learning all the aspects of creating maintainable Node.js applications. You will see how Node.js is focused on creating high-performing, highly-scalable websites, and how easy it is to get started. Many front-end devs regularly work with HTML, CSS, PHP, even WordPress, but haven't yet got started with Node.js. This book explains everything for you from a beginner level, enabling you to start using Node.js in your projects right away. Using this book you will learn important Node.js concepts for server-side programming. You will begin with an easy-to-follow pure JavaScript primer, which you can skip if you're confident of your JS skills. You'll then

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delve into Node.js concepts such as streams and events, and the technology involved in building full-stack Node.js applications. You'll also learn how to test your Node.js code, and deploy your Node.js applications on the internet. Node.js is a great and simple platform to work with. It is lightweight, easy to deploy and manage. You will see how using Node.js can be a fun and rewarding experience - start today with *Beginning Node.js*.

"Node: Up and Running" shows users how Node scales up to support large numbers of simultaneous connections across multiple servers, and scales down to create one-off applications with minimal infrastructure. This is an exciting time to learn JavaScript. Now that the latest JavaScript specification—ECMAScript 6.0 (ES6)—has been finalized, learning how to develop high-quality applications with this language is easier and more satisfying than ever. This practical book takes programmers (amateurs and pros alike) on a no-nonsense tour of ES6, along with some related tools and techniques. Author Ethan Brown (*Web Development with Node and Express*) not only guides you through simple and straightforward topics (variables, control flow, arrays), but also covers complex concepts such as functional and asynchronous programming. You'll learn how to create powerful and responsive web applications on the client, or with Node.js on the server. Use ES6 today and transpile code to portable ES5. Translate data into a format that JavaScript can use. Understand the basic usage and mechanics of JavaScript functions. Explore objects and object-oriented programming. Tackle new concepts such as iterators, generators, and proxies.

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Grasp the complexities of asynchronous programming  
Work with the Document Object Model for browser-based apps  
Learn Node.js fundamentals for developing server-side applications

Learn to build fast and scalable software in JavaScript with Node.js  
Node.js is a powerful and popular new framework for writing scalable network programs using JavaScript. This no nonsense book begins with an overview of Node.js and then quickly dives into the code, core concepts, and APIs. In-depth coverage pares down the essentials to cover debugging, unit testing, and flow control so that you can start building and testing your own modules right away. Covers node and asynchronous programming main concepts  
Addresses the basics: modules, buffers, events, and timers  
Explores streams, file systems, networking, and automated unit testing  
Goes beyond the basics, and shares techniques and tools for debugging, unit testing, and flow control  
If you already know JavaScript and are curious about the power of Node.js, then this is the ideal book for you.

Take advantage of JavaScript's power to build robust web-scale or enterprise applications that are easy to extend and maintain. By applying the design patterns outlined in this practical book, experienced JavaScript developers will learn how to write flexible and resilient code that's easier—yes, easier—to work with as your code base grows. JavaScript may be the most essential web programming language, but in the real world, JavaScript applications often break

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when you make changes. With this book, author Eric Elliott shows you how to add client- and server-side features to a large JavaScript application without negatively affecting the rest of your code. Examine the anatomy of a large-scale JavaScript application

Build modern web apps with the capabilities of desktop applications

Learn best practices for code organization, modularity, and reuse

Separate your application into different layers of responsibility

Build efficient, self-describing hypermedia APIs with Node.js

Test, integrate, and deploy software updates in rapid cycles

Control resource access with user authentication and authorization

Expand your application's reach through internationalization

Node.js is the platform of choice for creating modern web services. This fast-paced book gets you up to speed on server-side programming with Node.js 8, as you develop real programs that are small, fast, low-profile, and useful. Take JavaScript beyond the browser, explore dynamic language features, and embrace evented programming. Harness the power of the event loop and non-blocking I/O to create highly parallel microservices and applications. This expanded and updated second edition showcases the latest ECMAScript features, current best practices, and modern development techniques. JavaScript is the backbone of the modern web, powering nearly every web app's user interface. Node.js is JavaScript for the server. This greatly

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expanded second edition introduces new language features while dramatically increasing coverage of core topics. Each hands-on chapter offers progressively more challenging topics and techniques, broadening your skill set and enabling you to think in Node.js. Write asynchronous, non-blocking code using Node.js's style and patterns. Cluster and load balance services with Node.js core features and third-party tools. Harness the power of databases such as Elasticsearch and Redis. Work with many protocols, create RESTful web services, TCP socket clients and servers, and more. Test your code's functionality with Mocha, and manage its life cycle with npm. Discover how Node.js pairs a server-side event loop with a JavaScript runtime to produce screaming fast, non-blocking concurrency. Through a series of practical programming domains, use the latest available ECMAScript features and harness key Node.js classes and popular modules. Create rich command-line tools and a web-based UI using modern web development techniques. Join the smart and diverse community that's rapidly advancing the state of the art in JavaScript development.

What You Need: Node.js 8.x Operating system with bash-like shell OMQ (pronounced "Zero-M-Q") library, version 3.2 or higher Elasticsearch version 5.0 or higher jq version 1.5 or higher Redis version 3.2 or higher Assemble the complete stack required to build a modern web app using MongoDB, Express, React,

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and Node. This book also covers many other complementary tools: React Router, GraphQL, React-Bootstrap, Babel, and Webpack. This new edition will use the latest version of React (React 16) and the latest React Router (React Router 4), which has a significantly different approach to routing compared to React Router 2 which was used in the first edition of the book. Though the primary focus of Pro MERN Stack is to equip you with all that is required to build a full-fledged web application, a large portion of the book will be devoted to React 16. The popular MEAN (MongoDB, Express, AngularJS, Node) stack introduced Single Page Apps (SPAs) and front-end Model-View-Controller (MVC) as new and efficient paradigms. Facebook's React is a technology that competes indirectly with AngularJS. It is not a full-fledged MVC framework. It is a JavaScript library for building user interfaces (in some sense the View part). Yet, it is possible to build a web app by replacing AngularJS with React – hence the term MERN stack

**What You Will Learn**

- Discover the features of React 16 to get the maximum out of this library
- Gain the basics of MongoDB, Express, and Node to build a web app
- Work with other libraries complementary to React, including React-Bootstrap, React Router, and GraphQL
- Use tools such as Babel and Webpack required to build JavaScript-based SPAs
- Tie all the components together to build a complete web app.

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Who This Book Is For Developers and architects who have prior experience in any web app stack other than the MERN stack will find the book useful to learn about this modern stack. Prior knowledge of JavaScript, HTML, and CSS is required.

Takes you through creating your own API, building a full real-time web app, securing your Node systems, and practical applications of the latest Async and Await technologies. It maps out everything in a comprehensive, easy-to-follow package designed to get you up and running quickly. Key Features Entirely project-based and practical Explains the "why" of Node.js features, not just the "how", providing with a deep understanding and enabling you to easily apply concepts in your own applications Covers the full range of technologies around Node.js – npm, MongoDB, version control with Git, and many more Book Description Advanced Node.js

Development is a practical, project-based book that provides you with all you need to progress as a Node.js developer. Node is a ubiquitous technology on the modern web, and an essential part of any web developer's toolkit. If you're looking to create real-world Node applications, or you want to switch careers or launch a side-project to generate some extra income, then you're in the right place. This book was written around a single goal: turning you into a professional Node developer capable of developing, testing, and deploying real-world

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production applications. There's no better time to dive in. According to the 2018 Stack Overflow Survey, Node is in the top ten for back-end popularity and back-end salary. This book is built from the ground up around the latest version of Node.js (version 9.x.x). You'll be learning all the cutting-edge features available only in the latest software versions. This book delivers advanced skills that you need to become a professional Node developer. Along this journey you'll create your own API, you'll build a full real-time web app and create projects that apply the latest Async and Await technologies. Andrew Mead maps everything out for you in this book so that you can learn how to build powerful Node.js projects in a comprehensive, easy-to-follow package designed to get you up and running quickly. What you will learn Develop, test, and deploy real-world Node.js applications Master Node.js by building practical, working examples Use awesome third-party Node modules such as MongoDB, Mongoose, Socket.io, and Express Create real-time web applications Explore async and await in ES7 Who this book is for This book is for anyone looking to launch their own Node applications, switch careers, or freelance as a Node developer. You should have a basic understanding of JavaScript in order to follow this book. This book follows directly on from Learning Node.js Development, but more advanced readers can

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benefit from this book without having read the first part.

Summary Node.js in Action, Second Edition is a thoroughly revised book based on the best-selling first edition. It starts at square one and guides you through all the features, techniques, and concepts you'll need to build production-quality Node applications. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology You already know JavaScript. The trick to mastering Node.js is learning how to build applications that fully exploit its powerful asynchronous event handling and non-blocking I/O features. The Node server radically simplifies event-driven real-time apps like chat, games, and live data analytics, and with its incredibly rich ecosystem of modules, tools, and libraries, it's hard to beat! About the Book Based on the bestselling first edition, Node.js in Action, Second Edition is a completely new book. Packed with practical examples, it teaches you how to create high-performance web servers using JavaScript and Node. You'll master key design concepts such as asynchronous programming, state management, and event-driven programming. And you'll learn to put together MVC servers using Express and Connect, design web APIs, and set up the perfect production environment to build, lint, and test. What's Inside Mastering non-blocking I/O The Node event loop

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Testing and deploying Web application templating About the Reader Written for web developers with intermediate JavaScript skills. About the Authors The Second Edition author team includes Node masters Alex Young, Bradley Meck, Mike Cantelon, and Tim Oxley, along with original authors Marc Harter, T.J. Holowaychuk, and Nathan Rajlich. Table of contents PART 1 - WELCOME TO NODE Welcome to Node.js Node programming fundamentals What is a Node web application? PART 2 - WEB DEVELOPMENT WITH NODE Front-end build systems Server-side frameworks Connect and Express in depth Web application templating Storing application data Testing Node applications Deploying Node applications and maintaining uptime PART 3 - BEYOND WEB DEVELOPMENT Writing command-line applications Conquering the desktop with Electron

A definitive guide to creating an intelligent web application with the best of machine learning and JavaScript Key Features Solve complex computational problems in browser with JavaScript Teach your browser how to learn from rules using the power of machine learning Understand discoveries on web interface and API in machine learning Book Description In over 20 years of existence, JavaScript has been pushing beyond the boundaries of web evolution with proven existence on servers, embedded devices, Smart TVs, IoT,

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Smart Cars, and more. Today, with the added advantage of machine learning research and support for JS libraries, JavaScript makes your browsers smarter than ever with the ability to learn patterns and reproduce them to become a part of innovative products and applications. Hands-on Machine Learning with JavaScript presents various avenues of machine learning in a practical and objective way, and helps implement them using the JavaScript language. Predicting behaviors, analyzing feelings, grouping data, and building neural models are some of the skills you will build from this book. You will learn how to train your machine learning models and work with different kinds of data. During this journey, you will come across use cases such as face detection, spam filtering, recommendation systems, character recognition, and more. Moreover, you will learn how to work with deep neural networks and guide your applications to gain insights from data. By the end of this book, you'll have gained hands-on knowledge on evaluating and implementing the right model, along with choosing from different JS libraries, such as NaturalNode, brain, harthur, classifier, and many more to design smarter applications. What you will learn

Get an overview of state-of-the-art machine learning  
Understand the pre-processing of data handling, cleaning, and preparation  
Learn Mining and Pattern Extraction with JavaScript  
Build your own model for classification,

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clustering, and prediction Identify the most appropriate model for each type of problem Apply machine learning techniques to real-world applications Learn how JavaScript can be a powerful language for machine learning Who this book is for This book is for you if you are a JavaScript developer who wants to implement machine learning to make applications smarter, gain insightful information from the data, and enter the field of machine learning without switching to another language. Working knowledge of JavaScript language is expected to get the most out of the book.

With *Learning JavaScript Design Patterns*, you'll learn how to write beautiful, structured, and maintainable JavaScript by applying classical and modern design patterns to the language. If you want to keep your code efficient, more manageable, and up-to-date with the latest best practices, this book is for you. Explore many popular design patterns, including Modules, Observers, Facades, and Mediators. Learn how modern architectural patterns—such as MVC, MVP, and MVVM—are useful from the perspective of a modern web application developer. This book also walks experienced JavaScript developers through modern module formats, how to namespace code effectively, and other essential topics. Learn the structure of design patterns and how they are written Understand

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different pattern categories, including creational, structural, and behavioral Walk through more than 20 classical and modern design patterns in JavaScript Use several options for writing modular code—including the Module pattern, Asynchronous Module Definition (AMD), and CommonJS Discover design patterns implemented in the jQuery library Learn popular design patterns for writing maintainable jQuery plug-ins "This book should be in every JavaScript developer's hands. It's the go-to book on JavaScript patterns that will be read and referenced many times in the future."—Andrée Hansson, Lead Front-End Developer, presis!

"We finally have the definitive treatise on PyTorch! It covers the basics and abstractions in great detail. I hope this book becomes your extended reference document." —Soumith Chintala, co-creator of PyTorch

Key Features Written by PyTorch's creator and key contributors Develop deep learning models in a familiar Pythonic way Use PyTorch to build an image classifier for cancer detection Diagnose problems with your neural network and improve training with data augmentation Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Every other day we hear about new ways to put deep learning to good use: improved medical imaging, accurate credit card fraud detection, long range weather forecasting, and more. PyTorch puts

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these superpowers in your hands. Instantly familiar to anyone who knows Python data tools like NumPy and Scikit-learn, PyTorch simplifies deep learning without sacrificing advanced features. It's great for building quick models, and it scales smoothly from laptop to enterprise. Deep Learning with PyTorch teaches you to create deep learning and neural network systems with PyTorch. This practical book gets you to work right away building a tumor image classifier from scratch. After covering the basics, you'll learn best practices for the entire deep learning pipeline, tackling advanced projects as your PyTorch skills become more sophisticated. All code samples are easy to explore in downloadable Jupyter notebooks. What You Will Learn

Understanding deep learning data structures such as tensors and neural networks Best practices for the PyTorch Tensor API, loading data in Python, and visualizing results Implementing modules and loss functions Utilizing pretrained models from PyTorch Hub Methods for training networks with limited inputs Sifting through unreliable results to diagnose and fix problems in your neural network Improve your results with augmented data, better model architecture, and fine tuning This Book Is Written For For Python programmers with an interest in machine learning. No experience with PyTorch or other deep learning frameworks is required. About The Authors Eli Stevens has worked in Silicon Valley for the past

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15 years as a software engineer, and the past 7 years as Chief Technical Officer of a startup making medical device software. Luca Antiga is co-founder and CEO of an AI engineering company located in Bergamo, Italy, and a regular contributor to PyTorch. Thomas Viehmann is a Machine Learning and PyTorch speciality trainer and consultant based in Munich, Germany and a PyTorch core developer.

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Make use of Node.js to learn the development of a simple yet scalable cross-platform mobile application

About This Book Use Node.js to satisfy the core backend requirements of modern apps, including user management, security, data access, and real-

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time data communication Build practical real-world mobile applications, which will give you the necessary knowledge to build your very own mobile solutions Step-by-step development of projects using Ionic Framework as the frontend and Node.js for the backend supported by a MongoDB database Who This Book Is For This book is intended for web developers of all levels of expertise who want to deep dive into cross-platform mobile application development without going through the pains of understanding the languages and native frameworks that form an integral part of developing for different mobile platforms. This book is also for you if you are a developer who wants to capitalize on the MobileFirst strategy and so are going to use JavaScript for your complete stack. What You Will Learn Develop an API from scratch Set up a MongoDB Database as part of your mobile application backend Deploy a cross-platform mobile application from the command line Incorporate features within your mobile application that use native phone features such as a gyroscope, GPS, and accelerometer Implement mobile applications that use web-enabled APIs Build a mobile application with real-time chat messaging features Develop a secure mobile application that is capable of functioning with real-time data In Detail Node.js is a massively popular JavaScript library that lets you use JavaScript to easily program scalable network

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applications and web services. People approaching Node.js for the first time are often attracted by its efficiency, scalability, and the fact that it's based on JavaScript, the language of the Web, which means that developers can use the same language to write backend code. Also, it's increasingly being seen as a "modern" replacement for PHP in web development, which relies on fast-paced data exchange. The growing community and the large amount of available modules makes Node.js one of the most attractive development environments. This book takes a step-wise and incremental approach toward developing cross-platform mobile technologies using existing web technologies. This will allow you to truly understand and become proficient in developing cross-platform mobile applications with Node.js, Ionic Framework, and MongoDB. The book starts off by introducing all the necessary requirements and knowledge to build a mobile application with a companion web service. It covers the ability to create an API from scratch and implement a comprehensive user database that will give you the opportunity to offer a mobile application with a personalized experience. Midway through the book, you will learn the basic processes to create a successful mobile application. You will also gain higher-level knowledge, allowing you to develop a functional and secure mobile application to ensure a seamless user experience for end users. Finally, the

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book ends with more advanced projects, which will bring together all the knowledge and expertise developed in the previous chapters to create a practical and functional mobile-application that has useful real-world features. Style and approach This book is an easy-to-follow guide that takes a step-wise approach in giving expertise and knowledge to help you truly understand what is needed to create a memorable user experience for end users. Each topic is placed in the context of the bigger picture, that is, to create cross-platform mobile applications using existing technologies.

Diving deep into the JavaScript language to show you how to write beautiful, effective code, this book uses extensive examples and immerses you in code from the start, while exercises and full-chapter projects give you hands-on experience with writing your own programs. --

Provides information on using Node.js to build scalable Web applications, covering such topics as asynchronous programming, data storage, and output templating.

Learn how to build a wide range of scalable real-world web applications using a professional development toolkit. If you already know the basics of Node.js, now is the time to discover how to bring it to production level by leveraging its vast ecosystem of packages. With this book, you'll work with a varied collection of standards and frameworks and see how

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all those pieces fit together. Practical Node.js takes you from installing all the necessary modules to writing full-stack web applications. You'll harness the power of the Express.js and Hapi frameworks, the MongoDB database with Mongoskin and Mongoose. You'll also work with Pug and Handlebars template engines, Stylus and LESS CSS languages, OAuth and Everyauth libraries, and the Socket.IO and Derby libraries, and everything in between. This exciting second edition is fully updated for ES6/ES2015 and also covers how to deploy to Heroku and AWS, daemonize apps, and write REST APIs. You'll build full-stack real-world Node.js apps from scratch, and also discover how to write your own Node.js modules and publish them on NPM. Fully supported by a continuously updated source code repository on GitHub and with full-color code examples, learn what you can do with Node.js and how far you can take it! What You'll Learn

Manipulate data from the mongo console Use the Mongoskin and Mongoose MongoDB libraries Build REST API servers with Express and Hapi Deploy apps to Heroku and AWS Test services with Mocha, Expect and TravisCI Implement a third-party OAuth strategy with Everyauth Web developers who have some familiarity with the basics of Node.js and want to learn how to use it to build apps in a professional environment.

The significantly expanded and updated new edition

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of a widely used text on reinforcement learning, one of the most active research areas in artificial intelligence. Reinforcement learning, one of the most active research areas in artificial intelligence, is a computational approach to learning whereby an agent tries to maximize the total amount of reward it receives while interacting with a complex, uncertain environment. In Reinforcement Learning, Richard Sutton and Andrew Barto provide a clear and simple account of the field's key ideas and algorithms. This second edition has been significantly expanded and updated, presenting new topics and updating coverage of other topics. Like the first edition, this second edition focuses on core online learning algorithms, with the more mathematical material set off in shaded boxes. Part I covers as much of reinforcement learning as possible without going beyond the tabular case for which exact solutions can be found. Many algorithms presented in this part are new to the second edition, including UCB, Expected Sarsa, and Double Learning. Part II extends these ideas to function approximation, with new sections on such topics as artificial neural networks and the Fourier basis, and offers expanded treatment of off-policy learning and policy-gradient methods. Part III has new chapters on reinforcement learning's relationships to psychology and neuroscience, as well as an updated case-studies chapter including AlphaGo and AlphaGo Zero, Atari

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game playing, and IBM Watson's wagering strategy. The final chapter discusses the future societal impacts of reinforcement learning.

Take your web development skills from browser to server with Node—and learn how to write fast, highly scalable network applications on this JavaScript-based platform. Updated for the latest Node Long Term Support (LTS) and Node Current (6.0) releases, this hands-on edition helps you master Node's core fundamentals and gain experience with several built-in and contributed modules. Get up to speed on Node's event-driven, asynchronous I/O model for developing data-intensive applications that are frequently accessed but computationally simple. If you're comfortable working with JavaScript, this book provides many programming and deployment examples to help you take advantage of server-side development with Node. Explore the frameworks and functionality for full-stack Node development Dive into Node's module system and package management support Test your application or module code on the fly with Node's REPL console Use core Node modules to build web applications and an HTTP server Learn Node's support for networks, security, and sockets Access operating system functionality with child processes Learn tools and techniques for Node development and production Use Node in microcontrollers, microcomputers, and the Internet of Things

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Create real-time applications using Node.js 10, Docker, MySQL, MongoDB, and Socket.IO with this practical guide and go beyond the developer's laptop to cover live deployment, including HTTPS and hardened security. Key Features Learn server-side JavaScript coding through the most up-to-date book on Node.js Explore the latest JavaScript features, and EcmaScript modules Walk through different stages of developing robust applications using Node.js 10 Book Description Node.js is a server-side JavaScript platform using an event-driven, non-blocking I/O model allowing users to build fast and scalable data-intensive applications running in real time. This book gives you an excellent starting point, bringing you straight to the heart of developing web applications with Node.js. You will progress from a rudimentary knowledge of JavaScript and server-side development to being able to create, maintain, deploy and test your own Node.js application. You will understand the importance of transitioning to functions that return Promise objects, and the difference between fs, fs/promises and fs-extra. With this book you'll learn how to use the HTTP Server and Client objects, data storage with both SQL and MongoDB databases, real-time applications with Socket.IO, mobile-first theming with Bootstrap, microservice deployment with Docker, authenticating against third-party services using OAuth, and use some well known tools to beef up security of Express

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4.16 applications. What you will learn Install and use Node.js 10 for both development and deployment Use the Express 4.16 application framework Work with REST service development using the Restify framework Use data storage engines such as MySQL, SQLITE3, and MongoDB Use User authentication methods with OAuth2 Perform Real-time communication with the front-end using Socket.IO Implement Docker microservices in development, testing and deployment Perform unit testing with Mocha 5.x, and functional testing with Puppeteer 1.1.x Work with HTTPS using Let's Encrypt, and application security with Helmet Who this book is for This book is for anybody looking for an alternative to the "P" languages (Perl, PHP, and Python), or anyone looking for a new paradigm of server-side application development. You should have at least a rudimentary understanding of JavaScript and web application development. If you're looking for an alternative to the "P" languages (Perl, PHP, and Python), or want to explore a new paradigm of server-side application development, this Node book is for you. You should have at least a rudimentary understanding of JavaScript and web application development. In just 24 sessions of one hour or less, Sams Teach Yourself Node.js in 24 Hours will help you master the Node.js platform and use it to build server-side applications with extraordinary speed and scalability. Using this text's straightforward, step-

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by-step approach, you'll move from basic installation, configuration, and programming all the way through real-time messaging between browser and server, testing and deployment. Every lesson and case-study application builds on what you've already learned, giving you a rock-solid foundation for real-world success! Step-by-step instructions carefully walk you through the most common Node.js development tasks. Quizzes and Exercises at the end of each chapter help you test your knowledge. By the Way notes present valuable additional information related to the discussion. Did You Know? tips offer advice or show you easier ways to perform tasks. Watch Out! cautions alert you to possible problems and give you advice on how to avoid them. Learn how to...

- Create end-to-end applications entirely in JavaScript
- Master essential Node.js concepts like callbacks and quickly create your first program
- Create basic sites with the HTTP module and Express web framework
- Manage data persistence with Node.js and MongoDB
- Debug and test Node.js applications
- Deploy Node.js applications to thirdparty services, such as Heroku and Nodester
- Build powerful real-time solutions, from chat servers to Twitter clients
- Create JSON APIs using JavaScript on the server
- Use core components of the Node.js API, including processes, child processes, events, buffers, and streams
- Create and publish a Node.js module

Summary Getting MEAN, Second Edition teaches you how to develop full-stack web applications using the MEAN stack. This edition was completely revised and updated to cover MongoDB 4, Express 4, Angular 7, Node 11, and the latest mainstream release of JavaScript ES2015. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Juggling languages mid-application can radically slow down a full-stack web project. The MEAN stack—MongoDB, Express,

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Angular, and Node—uses JavaScript end to end, maximizing developer productivity and minimizing context switching. And you'll love the results! MEAN apps are fast, powerful, and beautiful. About the Book Getting MEAN, Second Edition teaches you how to develop full-stack web applications using the MEAN stack. Practical from the very beginning, the book helps you create a static site in Express and Node. Expanding on that solid foundation, you'll integrate a MongoDB database, build an API, and add an authentication system. Along the way, you'll get countless pro tips for building dynamic and responsive data-driven web applications! What's inside MongoDB 4, Express 4, Angular 7, and Node.js 11 MEAN stack architecture Mobile-ready web apps Best practices for efficiency and reusability About the Reader Readers should be comfortable with standard web application designs and ES2015-style JavaScript. About the Author Simon Holmes and Clive Harber are full-stack developers with decades of experience in JavaScript and other leading-edge web technologies. Table of Contents

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**PART 2 - BUILDING A NODE WEB APPLICATION** Creating and setting up a MEAN project Building a static site with Node and Express Building a data model with MongoDB and Mongoose Writing a REST API: Exposing the MongoDB database to the application Consuming a REST API: Using an API from inside Express

**PART 3 - ADDING A DYNAMIC FRONT END WITH ANGULAR** Creating an Angular application with TypeScript Building a single-page application with Angular: Foundations Building a single-page application with Angular: The next level

**PART 4 - MANAGING AUTHENTICATION AND USER SESSIONS** Authenticating users, managing sessions, and securing APIs Using an authentication API in Angular applications

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A comprehensive, easy-to-follow guide to creating complete Node apps and understanding how to build, deploy, and test your own apps. Key Features Entirely project-based and practical Explains the "Why" of Node.js features, not just the "how", providing you with a deep understanding and enabling you to easily apply concepts in your own applications Covers the full range of technologies around Node.js – NPM, version control with Git, and much more Book Description Learning Node.js Development is a practical, project-based book that provides you with all you need to get started as a Node.js developer. Node is a ubiquitous technology on the modern web, and an essential part of any web developers' toolkit. If you are looking to create real-world Node applications, or you want to switch careers or launch a side project to generate some extra income, then you're in the right place. This book has been written around a single goal—turning you into a professional Node developer capable of developing, testing, and deploying real-world production applications. Learning Node.js Development is built from the ground up around the latest version of Node.js (version 9.x.x). You'll be learning all the cutting-edge features available only in the latest software versions. This book cuts through the mass of information available around Node and delivers the essential skills that you need to become a Node developer. It takes you through creating complete apps and understanding how to build, deploy, and test your own Node apps. It maps out everything in a comprehensive, easy-to-follow package designed to get you up and running quickly. What you will learn Learn the fundamentals of Node Build apps that respond to user input Master working with servers Learn how to test and debug applications Deploy and update your apps in the real world Create responsive asynchronous web applications Who this book is for This book targets anyone looking to launch their own Node applications, switch careers, or freelance as a

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Node developer. You should have a basic understanding of JavaScript in order to follow this course.

Since its creation in 2009, Node.js has grown into a powerful and increasingly popular asynchronous-development framework for creating highly-scalable network applications using JavaScript. Respected companies such as Dow Jones and LinkedIn are among the many organizations to have seen Node's potential and adopted it into their businesses. Pro Node.js for Developers provides a comprehensive guide to this exciting new technology. We introduce you to Node – what it is, why it matters and how to set it up – before diving deeply into the key concepts and APIs that underpin its operation. Building upon your existing JavaScript skills you'll be shown how to use Node.js to build both Web- and Network-based applications, to deal with data sources, capture events and deal with child processes to create robust applications that will work well in a wide range of circumstances. Once you've mastered these skills we'll go further, teaching you more advanced software engineering skills that will give your code a professional edge. You'll learn how to create easily reusable modules that will save you time through code reuse, to log and debug your applications quickly and effectively and to write code that will scale easily and reliably as the demand for your application grows.

Node.js. It's the latest in a long line of "Are you cool enough to use me?" programming languages, APIs, and toolkits. In that sense, it lands squarely in the tradition of Rails, and Ajax, and Hadoop, and even to some degree iPhone programming and HTML5. Dig a little deeper, and you'll hear that Node.js (or, as it's more briefly called by many, simply "Node") is a server-side solution for JavaScript, and in particular, for receiving and responding to HTTP requests. If that doesn't completely boggle your mind, by the time the conversation heats up with discussion of ports, sockets, and threads, you'll

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tend to glaze over. Is this really JavaScript? In fact, why in the world would anyone want to run JavaScript outside of a browser, let alone the server? The good news is that you're hearing (and thinking) about the right things. Node really is concerned with network programming and server-side request/response processing. The bad news is that like Rails, Ajax, and Hadoop before it, there's precious little clear information available. There will be, in time — as there now is for these other “cool” frameworks that have matured — but why wait for a book or tutorial when you might be able to use Node today, and dramatically improve the maintainability. Get the best out of Node.js by mastering its most powerful components and patterns to create modular and scalable applications with ease About This Book Create reusable patterns and modules by leveraging the new features of Node.js . Understand the asynchronous single thread design of node and grasp all its features and patterns to take advantage of various functions. This unique guide will help you get the most out of Node.js and its ecosystem. Who This Book Is For The book is meant for developers and software architects with a basic working knowledge of JavaScript who are interested in acquiring a deeper understanding of how to design and develop enterprise-level Node.js applications. Basic knowledge of Node.js is also helpful to get the most out of this book. What You Will Learn Design and implement a series of server-side JavaScript patterns so you understand why and when to apply them in different use case scenarios Become comfortable with writing asynchronous code by leveraging constructs such as callbacks, promises, generators and the async-await syntax Identify the most important concerns and apply unique tricks to achieve higher scalability and modularity in your Node.js application Untangle your modules by organizing and connecting them coherently Reuse well-known techniques to solve common

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design and coding issues Explore the latest trends in Universal JavaScript, learn how to write code that runs on both Node.js and the browser and leverage React and its ecosystem to implement universal applications In Detail Node.js is a massively popular software platform that lets you use JavaScript to easily create scalable server-side applications. It allows you to create efficient code, enabling a more sustainable way of writing software made of only one language across the full stack, along with extreme levels of reusability, pragmatism, simplicity, and collaboration. Node.js is revolutionizing the web and the way people and companies create their software. In this book, we will take you on a journey across various ideas and components, and the challenges you would commonly encounter while designing and developing software using the Node.js platform. You will also discover the "Node.js way" of dealing with design and coding decisions. The book kicks off by exploring the basics of Node.js describing it's asynchronous single-threaded architecture and the main design patterns. It then shows you how to master the asynchronous control flow patterns, and the stream component and it culminates into a detailed list of Node.js implementations of the most common design patterns as well as some specific design patterns that are exclusive to the Node.js world. Lastly, it dives into more advanced concepts such as Universal Javascript, and scalability' and it's meant to conclude the journey by giving the reader all the necessary concepts to be able to build an enterprise grade application using Node.js. Style and approach This book takes its intended readers through a comprehensive explanation to create a scalable and efficient real-time server-side apps.

Summary Get Programming with Node.js teaches you to build web servers using JavaScript and Node. In this engaging tutorial, you'll work through eight complete projects, from

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writing the code for your first web server to adding live chat to a web app. Your hands will stay on the keyboard as you explore the most important aspects of the Node development process, including security, database management, authenticating user accounts, and deploying to production. You'll especially appreciate the easy-to-follow discussions, illuminating diagrams, and carefully explained code! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Node.js delivers the speed and reliability you need for ecommerce, social media, and gaming applications. It comes with thousands of prebuilt packages to help you get started immediately. If you want to use JavaScript on the server, Node.js is your choice. What's inside New features from ES2015 and later Writing asynchronous code Creating data models Debugging JavaScript modules About the Reader Written for front-end web developers with intermediate JavaScript skills. Table of Contents GETTING SET UP Lesson 0 - Setting up Node.js and the JavaScript engine Lesson 1 - Configuring your environment Lesson 2 - Running a Node.js application UNIT 1 - GETTING STARTED WITH NODE.JS Lesson 3 - Creating a Node.js module Lesson 4 - Building a simple web server in Node.js Lesson 5 - Handling incoming data Lesson 6 - Writing better routes and serving external files Lesson 7 - Capstone: Creating your first web application UNIT 2 - EASIER WEB DEVELOPMENT WITH EXPRESS.JS Lesson 8 - Setting up an app with Express.js Lesson 9 - Routing in Express.js Lesson 10 - Connecting views with templates Lesson 11 - Configurations and error handling Lesson 12 - Capstone: Enhancing the Confetti Cuisine site with Express.js UNIT 3 - CONNECTING TO A DATABASE Lesson 13 - Setting up a MongoDB database Lesson 14 - Building models with Mongoose Lesson 15 - Connecting controllers and models Using

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Take your application to the next level of high performance using the extensive capabilities of Node.js About This Book Analyze, benchmark, and profile your Node.js application to find slow spots, and push it to the limit by eliminating performance bottlenecks Learn the basis of performance analysis using Node.js Explore the high performance capabilities of Node.js, along with best practices In Detail Node.js is a tool written in C, which allows you to use JavaScript on the server-side. High performance on a platform like Node.js is knowing how to take advantage of every aspect of your hardware, helping memory management act at its best, and correctly deciding how to architect a

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complex application. Do not panic if your applications start consuming a lot of memory; instead spot the leak and solve it fast with Node.js by monitoring and stopping it before it becomes an issue. This book will provide you with the skills you need to analyze the performance of your application and monitor the aspects that can and should be. Starting with performance analysis concepts and their importance in helping Node.js developers eliminate performance bottlenecks, this book will take you through development patterns to avoid performance penalties. You will learn the importance of garbage collection and its behaviour, and discover how to profile your processor, allowing better performance and scalability. You will then learn about the different types of data storage methods. Moving on, you will get to grips with testing and benchmarking applications to avoid unknown application test zones. Lastly, you will explore the limits that external components can impose in your application in the form of bottlenecks. By following the examples in each chapter, you will discover tips to getting better performing applications by avoiding anti-patterns and stretching the limits of your environment as much as possible.

What You Will Learn

- Develop applications using well-defined and well-tested development patterns
- Explore memory management and garbage collection to improve performance
- Monitor memory changes and analyze heap snapshots
- Profile the CPU and improve your code to avoid patterns that force intensive processor usage
- Understand the importance of data and when you should cache information.
- Learn to always test your code and benchmark when needed
- Extend your application's scope and know what other elements can influence performance

Who This Book Is For

This book is for Node.js developers who want a more in-depth knowledge of the platform to improve the performance of their applications. Whether you have a base Node.js background or you are an

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expert who knows the garbage collector and wants to leverage it to make applications more robust, the examples in this book will benefit you. Style and approach This is a practical guide to learning high performance, which even the least experienced developer will comprehend. Small and simple examples help you test concepts yourself and easily adapt them to any application, boosting its performance and preparing it for the real-world.

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