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Nota di contenuto	Introduction to Random Signals and Noise; Contents; Preface; 1 Introduction; 1.1 Random Signals and Noise; 1.2 Modelling; 1.3 The Concept of a Stochastic Process; 1.3.1 Continuous Stochastic Processes; 1.3.2 Discrete-Time Processes (Continuous Random Sequences); 1.3.3 Discrete Stochastic Processes; 1.3.4 Discrete Random Sequences; 1.3.5 Deterministic Function versus Stochastic Process; 1.4 Summary; 2 Stochastic Processes; 2.1 Stationary Processes; 2.1.1 Cumulative Distribution Function and Probability Density Function; 2.1.2 First-Order Stationary Processes 2.1.3 Second-Order Stationary Processes2.1.4 Nth-Order Stationary Processes; 2.2 Correlation Functions; 2.2.1 The Autocorrelation Function, Wide-Sense Stationary Processes and Ergodic Processes; 2.2.2 Cyclo-Stationary Processes; 2.2.3 The Cross-Correlation Function; 2.2.4 Measuring Correlation Functions; 2.2.5 Covariance Functions; 2.2.6 Physical Interpretation of Process Parameters; 2.3 Gaussian Processes; 2.4 Complex Processes; 2.5 Discrete-Time Processes; 2.5.1 Mean, Correlation Functions and Covariance Functions; 2.6 Summary; 2.7 Problems; 3 Spectra of Stochastic Processes 3.1 The Power Spectrum3.2 The Bandwidth of a Stochastic Process; 3.3

The Cross-Power Spectrum; 3.4 Modulation of Stochastic Processes; 3.4.1 Modulation by a Random Carrier; 3.5 Sampling and Analogue-To-Digital Conversion; 3.5.1 Sampling Theorems; 3.5.2 A/D Conversion; 3.6 Spectrum of Discrete-Time Processes; 3.7 Summary; 3.8 Problems; 4. Linear Filtering of Stochastic Processes; 4.1 Basics of Linear Time-Invariant Filtering; 4.2 Time Domain Description of Filtering of Stochastic Processes; 4.2.1 The Mean Value of the Filter Output; 4.2.2 The Autocorrelations Function of the Output; 4.2.3 Cross-Correlation of the Input and Output; 4.3 Spectra of the Filter Output; 4.4 Noise Bandwidth; 4.4.1 Band-Limited Processes and Systems; 4.4.2 Equivalent Noise Bandwidth; 4.5 Spectrum of a Random Data Signal; 4.6 Principles of Discrete-Time Signals and Systems; 4.6.1 The Discrete Fourier Transform; 4.6.2 The z-Transform; 4.7 Discrete-Time Filtering of Random Sequences; 4.7.1 Time Domain Description of the Filtering; 4.7.2 Frequency Domain Description of the Filtering; 4.8 Summary; 4.9 Problems; 5 Bandpass Processes; 5.1 Description of Deterministic Bandpass Signals; 5.2 Quadrature Components of Bandpass Processes; 5.3 Probability Density Functions of the Envelope and Phase of Bandpass Noise; 5.4 Measurement of Spectra; 5.4.1 The Spectrum Analyser; 5.4.2 Measurement of the Quadrature Components; 5.5 Sampling of Bandpass Processes; 5.5.1 Conversion to Baseband; 5.5.2 Direct Sampling; 5.6 Summary; 5.7 Problems; 6 Noise in Networks and Systems; 6.1 White and Coloured Noise; 6.2 Thermal Noise in Resistors; 6.3 Thermal Noise in Passive Networks; 6.4 System Noise; 6.4.1 Noise in Amplifiers; 6.4.2 The Noise Figure; 6.4.3 Noise in Cascaded systems; 6.5 Summary; 6.6 Problems

Sommario/riassunto

Random signals and noise are present in many engineering systems and networks. Signal processing techniques allow engineers to distinguish between useful signals in audio, video or communication equipment, and interference, which disturbs the desired signal. With a strong mathematical grounding, this text provides a clear introduction to the fundamentals of stochastic processes and their practical applications to random signals and noise. With worked examples, problems, and detailed appendices, Introduction to Random Signals and Noise gives the reader the knowledge to de

2. Record Nr.	UNINA9910580155203321
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Titolo	Network Programming with Go Language : Essential Skills for Programming, Using and Securing Networks with Open Source Google Golang / / by Jan Newmarch, Ronald Petty
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ISBN	9781484280959 1484280954
Edizione	[2nd ed. 2022.]
Descrizione fisica	1 online resource (386 pages) : illustrations
Disciplina	001.642
Soggetti	Programming languages (Electronic computers) Open source software Computer science Programming Language Open Source Computer Science
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Includes index.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1: Architectural Layers -- 2: Overview of the Go Language -- 3: Socket-Level Programming -- 4: Data Serialization -- 5: Application-Level Protocols -- 6: Managing Character Sets and Encodings -- 7: Security -- 8: HTTP -- 9: Templates -- 10: A Complete Web Server -- 11: HTML -- 12: XML -- 13: Remote Procedure Call -- 14: REST -- 15: WebSockets -- 16: Gorilla -- 17: Testing -- Appendix A: Fuzzing -- Appendix B: Generics.
Sommario/riassunto	Dive into key topics in network architecture implemented with the Google-backed open source Go programming language. Networking topics such as data serialization, application level protocols, character sets and encodings are discussed and demonstrated in Go. This book has been updated to the Go version 1.18 which includes modules, generics, and fuzzing along with updated and additional examples. Beyond the fundamentals, Network Programming with Go, Second Edition covers key networking and security issues such as HTTP protocol changes, validation and templates, remote procedure call

(RPC) and REST comparison, and more. Additionally, authors Ronald Petty and Jan Newmarch guide you in building and connecting to a complete web server based on Go. Along the way, use of a Go web toolkit (Gorilla) will be employed. This book can serve as both an essential learning guide and reference on networking concepts and implementation in Go. Free source code is available on Github for this book under Creative Commons open source license. You will: Perform network programming with Go (including JSON and RPC) Understand Gorilla, the Golang web toolkit, and how to use it Implement a microservice architecture with Go Leverage Go features such as generics, fuzzing Master syscalls and how to employ them with Go.
