[Book] Computer Music Synthesis Composition And Performance

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Related with Computer Music Synthesis Composition And Performance:

Computer Music-Charles Dodge 1985 This text reflects the current state of computer technology and music composition. The authors offer clear, practical overviews of program languages, real-time synthesizers, digital filtering, artificial intelligence, and much more.

Computer Music-Charles Dodge 1984 The Computer Music Tutorial-Professor of Media Arts and Technology Curtis Roads 1996 A guide to using computers to create music that includes information on digital audio, synthesis techniques, signal processing, musical input devices, editing systems, and performance software.

Virtual Music-David Cope 2001 Based on a colloquium held at Stanford University, Nov. 8-9, 1997.

Introduction to Computer Music-Nick Collins 2010-02-01 This title deals with both the practical use of technology in music and the key principles underpinning the discipline. It targets both musicians exploring computers, and technologists engaging with music, and does so in the confidence that both groups can learn tremendously from the cross-disciplinary encounter.

The Oxford Handbook of Computer Music-R. T. Dean 2009-09-16 This handbook provides a cross-section of the most field-defining topics and debates in the field of computer music today. From music cognition to pedagogy, it situates computer music in the broad context of its creation and performance across the full range of issues that crop up in discourse in the field.

Real Time Interactive Computer Music Synthesis- F. Richard Moore 1977 Composing Music with Computers-Eduardo Miranda 2001-04-27 Focuses on the role of the computer as a generative tool for music composition. Miranda introduces a number of computer music composition techniques ranging from probabilities, formal grammars and fractals, to genetic algorithms, cellular automata and neural computation. Anyone wishing to use the computer as a companion to create music will find this book a valuable resource. As a comprehensive guide with full explanations of technical terms, it is suitable for students, professionals and enthusiasts alike. The accompanying CD-ROM contains examples, complementary tutorials and a number of composition systems for PC and Macintosh platforms, from demonstration versions of commercial programs to exciting, fully working packages developed by research centres worldwide, including Nyquist, Bol Processor, Music Sketcher, SSEYO Koan, Open Music and the IBVA brainwaves control system, among others.

This book will be interesting to anyone wishing to use the computer as a companion to create music. It is a comprehensive guide, but the technical terms are explained so it is suitable for students, professionals and enthusiasts alike.

Elements of Computer Music-F. Richard Moore 1990 This is a general introduction to the theory of computer music, giving details on sound, digital signal processing, math, and C programming. It assumes a strong knowledge of music.

The Byte Book of Computer Music-Christopher P.
Algorithmic Composition offers new ways of thought-provoking questions and suggested sections include techniques for making sound physically, sections within analog and digital electronics. Martin Russ is well known and the book praised for its highly readable and non-mathematical approach making the subject accessible to readers starting out on computer music courses or those working in a studio. A DSP Primer-Kenneth Steiglitz 1996 This new book by Ken Steiglitz offers an informal and easy-to-understand introduction to digital signal processing, emphasizing digital audio and applications to computer music. A DSP Primer covers important topics such as phasors and tuning forks; the wave equation; sampling and quantizing; feedforward and feedback filters; comb and string filters; periodic sounds; transform methods; and filter design. Steiglitz uses an intuitive and qualitative approach to develop the mathematics critical to understanding DSP. A DSP Primer is written for a broad audience including: Students of DSP in Engineering and Computer Science courses. Composers of computer music and those who work with digital sound. WWW and Internet developers who work with multimedia. General readers interested in science that want an introduction to DSP. Features: Offers a simple and uncluttered step-by-step approach to DSP for first-time users, especially beginners in computer music. Designed to provide a working knowledge and understanding of frequency domain methods, including FFT and digital filtering. Contains thought-provoking questions and suggested experiments that help the reader to understand and apply DSP theory and techniques. Algorithmic Composition-Mary Simoni 2013 Algorithmic Composition offers new ways of thinking about the organization of sound that we call music Notes from the Metalevel-Heinrich Taube 2013-10-23 First Published in 2005. Routledge is an imprint of Taylor & Francis, an informa
The athenaCL system offers an open-source, object-oriented composition tool written in Python. The system can be scripted and embedded, and includes integrated instrument libraries, post-tonal and microtonal pitch modeling tools, multiple-format graphical outputs, and musical output in Csound, MIDI, audio file, XML, and text formats. Software design analysis is framed within a broad historical and intertextual study of the themes, approaches, and systems of computer-aided algorithmic composition (CAAC). A detailed history of the earliest experiments, as well as analysis of the foundational CAAC systems, is provided. Common problems and interpretations of CAAC are then presented in a historical and intertextual context, drawn from the writings and systems of numerous composers and developers. Toward the goal of developing techniques of comparative software analysis, a survey of system design archetypes, based on seven descriptors of CAAC systems, is presented. With this foundation, athenaCL system components are analyzed in detail. System components are divided into abstractions of musical materials, abstractions of musical procedures, and system architecture. For each component, object models, Python examples, and diagrams are provided. Further, each component is given context in terms of its compositional implications and relation to alternative and related models from the history of CAAC.

Electronic and Experimental Music-Thom Holmes 2015-10-08 Electronic and Experimental Music: Technology, Music, and Culture provides a comprehensive history of electronic music, covering key composers, genres, and techniques used in analog and digital synthesis. This textbook has been extensively revised with the needs of students and instructors in mind. The reader-friendly style, logical organization, and pedagogical features of the fifth edition allow easy access to key ideas, milestones, and concepts. New to this edition: • A companion website, featuring key examples of electronic music, both historical and contemporary. • Listening Guides providing a moment-by-moment annotated exploration of key works of electronic music. • A new chapter—Contemporary Practices in Composing Electronic Music. • Updated presentation of classic electronic music in the United Kingdom, Italy, Latin America, and Asia, covering the history of electronic music globally. • An expanded discussion of early experiments with jazz and electronic music, and the roots of
The scope and extent of the development of the personal computer and the wealth of resources available today, facilitated by the Telephone Laboratories in the 1950s to the pioneering work of Max Mathews at Bell Laboratories, shape its growth. Emphasizing the functional characteristics of emerging technologies and their influence on the creative development of the medium, Manning covers key developments in both commercial and the non-commercial sectors to provide readers with the most comprehensive resource available on the evolution of this ever-expanding area of creativity.

Electronic and Computer Music—Peter Manning 2013-02-27 In this new edition of the classic text on the evolution of electronic music, Peter Manning extends the definitive account of the medium from its birth to include key developments from the dawn of the 21st century to the present day. The scope of the many developments that have taken place since the late 1990s are considered in an extended series of new and updated chapters. These include topics such as the development of the digital audio workstation, laptop music, the Internet, and the emergence of new performance interfaces. Emphasizing the functional characteristics of emerging technologies and their influence on the creative development of the medium, Manning covers key developments in both commercial and the non-commercial sectors to provide readers with the most comprehensive resource available on the evolution of this ever-expanding area of creativity.

The Art and Technique of Electroacoustic Music—Peter Elsea 2013-06-01 Electroacoustic music is now in the mainstream of music, pervading all styles from the avant-garde to pop. Even classical works are routinely scored on a computer and a synthesized demo is a powerful tool for previewing a piece. The fundamental skills of electroacoustic composition are now as essential to a music student as ear training and counterpoint. The Art and Technique of Electroacoustic Music provides a detailed approach those fundamental skills. In this book Peter Elsea explores the topic from the fundamentals of acoustics through the basics of recording, composition with the tools of music concrete, and music production with MIDI instruments, softsynths and digital audio Workstations. Later sections of the book cover synthesis in depth and introduce high powered...
computer composition languages including Csound, ChucK, and Max/MSP. A final section presents the challenges and techniques of live performance. This book can be used as a text for undergraduate courses and also as a guide for self-learning.

Computer Music Instruments-Victor Lazzarini 2017-09-26 This book is divided into three elements. Part I provides a broad introduction to the foundations of computer music instruments, covering some key points in digital signal processing, with rigorous but approachable mathematics, and programming examples, as well as an overview of development environments for computer instruments. In Part II, the author presents synthesis and processing, with chapters on source-filter models, summation formulae, feedback and adaptive systems, granular methods, and frequency-domain techniques. In Part III he explains application development approaches, in particular communication protocols and user interfaces, and computer music platforms. All elements are fully illustrated with programming examples using Csound, Python, and Faust. The book is suitable for advanced undergraduate and postgraduate students in music and signal processing, and for practitioners and researchers.

Computer Sound Design-Eduardo Miranda 2012-10-12 This comprehensive introduction to software synthesis techniques and programming is intended for students, researchers, musicians, sound artists and enthusiasts in the field of music technology. The art of sound synthesis is as important for the electronic musician as the art of orchestration is important for symphonic music composers. Those who wish to create their own virtual orchestra of electronic instruments and produce original sounds will find this book invaluable. It examines a variety of synthesis techniques and illustrates how to turn a personal computer into a powerful and flexible sound synthesiser. The book also discusses a number of ongoing developments that may play an important role in the future of electronic music making. Previously published as Computer Sound Synthesis for the Electronic Musician, this second edition features a foreword by Jean-Claude Risset and provides new information on: the latest directions in digital sound representation, advances in physical modelling techniques, granular and pulsar synthesis, PSOLA technique, humanoid voice synthesis, artificial intelligence, evolutionary computing. The accompanying CD-ROM contains examples, complementary tutorials and a number of synthesis systems for PC and Macintosh platforms, ranging from low level synthesis programming languages to graphic front-ends for instrument and sound design. These include fully working packages, demonstration versions of commercial software and experimental programs from top research centres in Europe, North and South America.

Essentials of Music Technology-Mark Ballora 2015-04-01 Computers in music have gone from being a niche subject to becoming a ubiquitous presence that all music students are bound to encounter in their professional lives. Meant to serve as a general reference for music technology courses, Essentials of Music Technology provides an overview of musical acoustics, psychoacoustics, MIDI, digital audio, and sound recording. Topics covered include: * The Internet * MIDI software * The nature of digital audio storage * Filters * Effects * Room acoustics * Sampling and synthesis techniques Digital Sound Processing for Music and Multimedia-Ross Kirk 2013-10-08 Provides an introduction to the nature, synthesis and transformation of sound which forms the basis of digital sound processing for music and multimedia. Background information in computer techniques is included so that you can write computer algorithms to realise new processes central to your own musical and sound processing ideas. Finally, material is inlcuded to explain the way in which people contribute to the development of new kinds of performance and composition systems. Key features of the book include: * Contents structured into free-standing parts for easy navigation * 'Flow lines' to suggest alternative paths through the book, depending on the primary interest of the reader * Practical examples are contained on a supporting website. Digital Sound Processing can be used by anyone, whether from an audio engineering, musical or music technology perspective. Digital sound processing in its various spheres - music technology, studio systems and multimedia - are witnessing the dawning of a new age. The opportunities for involvement in the expansion and development of sound transformation, musical performance and composition are unprecedented. The supporting website (www.york.ac.uk/inst/mustech/dspmm.htm) contains working examples of computer techniques, music synthesis and sound processing.

Real Sound Synthesis for Interactive Applications-Perry R. Cook 2002-07-01 Virtual
environments such as games and animated and "real" movies require realistic sound effects that can be integrated by computer synthesis. The book emphasizes physical modeling of sound and focuses on real-world interactive sound effects. It is intended for game developers, graphics programmers, developers of virtual reality systems and traini
Basicsynth-Daniel Mitchell 2009-01 Books on music synthesizers explain the theory of music synthesis, or show you how to use an existing synthesizer, but don't cover the practical details of constructing a custom software synthesizer. Likewise, books on digital signal processing describe sound generation in terms of complex equations and leave it up to the reader to solve the practical problems of programming the equations. BasicSynth takes you beyond the theory and shows you how to create a custom synthesizer in software using the C++ programming language. The first part of the book explains the basic computer algorithms used to generate and process sound. Subsequent chapters explain instrument design using actual synthesis instruments. The example instruments are then combined with a text-based scoring system and sequencer to produce a complete working synthesizer. Complete source code to the C++ classes and example programs is available for download from the Internet.
Cooking with Csound, Part 1-Andrew Horner 2002-01 Cooking with Csound offers a fresh approach to using the software to create effective sounds. This book contains a collection of software synthesis designs for the woodwind and brass instruments, which you can bake into compositional curries, casseroles and soufflés in your computer. Whether you are a composer, researcher, student or hobbyist, the ready-to-use designs found in this volume will provide you with a rich set of sounds. The designs are in the Csound software synthesis language, which is available free on the web. The book includes a tutorial for those new to Csound, and a wide variety of effects for customizing the instrument designs. A chapter on pitch representation also allows readers to use customized tunings and scales. Includes a CD-ROM.
Composers and the Computer-Curtis Roads 1985
The Sound of Innovation-Andrew J. Nelson 2015-03-06 How a team of musicians, engineers, computer scientists, and psychologists developed computer music as an academic field and ushered in the era of digital music.
The Digital Musician-Andrew Hugill 2010-03-17
The Digital Musician explores what it means to be a musician in the digital age. It examines musical skills, cultural awareness and artistic identity through the prism of recent technological innovations. New technologies, and especially the new digital technologies, mean that anyone can produce music without musical training. This book asks why make music? what music to make? and how do we know what is good?
Formalized Music-Iannis Xenakis 1992
Pendragon Press is proud to offer this new, revised, and expanded edition of Formalized Music, Iannis Xenakis's landmark book of 1971. In addition to three totally new chapters examining recent breakthroughs in music theory, two original computer programs illustrating the actual realization of newly proposed methods of composition, and an appendix of the very latest developments of stochastic synthesis as an invitation to future exploration, Xenakis offers a very critical self-examination of his theoretical propositions and artistic output of the past thirty-five years. This edition of Formalized Music is an essential tool for understanding the man and the thought processes of one of this century's most important and revolutionary musical figures.
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