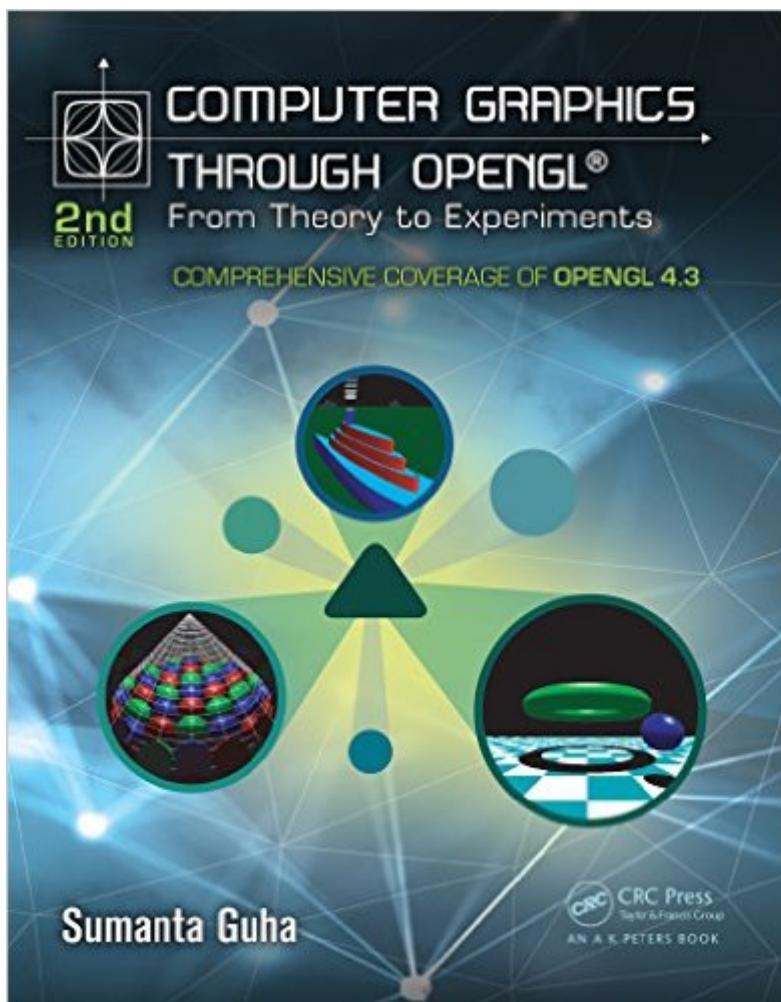The book was found

Computer Graphics Through OpenGL: From Theory To Experiments, Second Edition

Synopsis

From geometric primitives to animation to 3D modeling to lighting, shading, and texturing, Computer Graphics Through OpenGL®: From Theory to Experiments, Second Edition presents a comprehensive introduction to computer graphics that uses an active learning style to teach key concepts. Equally emphasizing theory and practice, the book provides an understanding not only of the principles of 3D computer graphics, but also the use of the OpenGL® Application Programming Interface (API) to code 3D scenes and animation, including games and movies. The undergraduate core of the book is a one-semester sequence taking the student from zero knowledge of computer graphics to a mastery of the fundamental concepts with the ability to code applications using fourth-generation OpenGL. The remaining chapters explore more advanced topics, including the structure of curves and surfaces and the application of projective spaces and transformations.New to the Second Edition30 more programs, 50 more experiments, and 50 more exercisesTwo new chapters on OpenGL 4.3 shaders and the programmable pipelineCoverage of:Vertex buffer and array objectsOcclusion culling and queries and conditional renderingTexture matricesMultitexturing and texture combiningMultisamplingPoint spritesImage and pixel manipulationPixel buffer objectsShadow mappingWeb ResourceThe bookâ ™s website at www.sumantaguha.com provides program source code that runs on various platforms. It includes a guide to installing OpenGL and executing the programs, special software to help run the experiments, and figures from the book. The site also contains an instructorâ ™s manual with solutions to 100 problems (for qualifying instructors only).

Book Information

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Customer Reviews

I have reviewed this book in exchange for a free book.I am already familiar with this subject. I have spent a lot of time with this book. There is Lots of Math!Trigonometry, polynomials, calculus (differential, integral), matrices, linear algebra summation....The Appendix has a math self-test with 30 problems & their solutions.The index has errors. The author has updated the index.Link: http://sumantaguha.com/files/materials/subjectAndProgramIndex.pdfCons: 1. difficult time a. reading sections in various parts: Some are: calculus, radiosity, splines, sphere mapping At times, I needed to do further research.Throughout the book, the author mentions sections that can be skipped. He also has a Suggested Course Outlines section - see Preface pg xxvii b. understanding how the code works in some of the programs 2. no compute shaders, particles 3. Unfortunately, the solutions to the exercises are only available to a course instructor. They should be also available for self-study because the book clearly says it can be used for self-study.Pros:1. suitable for beginners & advanced2. Compared to Frank Luna's "Introduction to 3D Game Programming withDirectX 11" book which I'm more than 1/2 way through, Sumanta's book scores in: 1. the amount of interaction & that the interaction starts early on 2. no windows programming - uses free GLut 3. no shader programming till towards the end 4. programs for linux & mac also 5. can email the author3. Excellent Interaction: a. about 250 programs in the source! WOW! All of them work.

I received this book as a review copy from CRC. I'm a graphics programmer and occasional writer. CRC sent me a review copy, upon my request. This review is reprinted from my blog; it naturally does not include the links I had in the original post.Iâ ™m a tough critic. Iâ ™m also an unpaid one: I spent a few hours with this book, but certainly did not read it cover to cover (though I hope to find the time to do so with this one for topics I know nothing about). So, beyond a general skim, I decided to choose a few graphics-related operations in advance and see how well this book covered them. The topics:* Antialiasing, since itâ ™s important to modern applications* Phong shading vs. lighting, since theyâ ™re different* Clip coordinates, which is what vertex shaders produceThis book is, unfortunately, currently broken, because of a faulty index. The index page

numbers are off by quite a bit. For example, Sutherland-Hodgeman (which should be spelled Hodgman - Angel & Shreinerâ ™s Interactive Computer Graphics, a book I generally like, also makes that goof; no biggie) in the index is listed as page 589, but actually appears on page 556 â " a 33 page error. This problem appears to be a scale problem. Entries early in the book are correct, e.g. clipping is listed as page 33 and indeed appears there. Selection is listed on page 184 and appears on page 174, a 10 page error. Near the end, homogeneous coordinates are listed as 879 but are actually 826. By curve fitting using Excel, the equation is: actual page number = 0.9412 * index page number + 1.4594Letâ ™s get past the index and mention it no more. A workaround is to use Google Books to search for the correct page number instead.

Computer Graphics Through OpenGL: From Theory to Experiments (Chapman & Hall/CRC Computer Graphics, Geometric Modeling, and Animation) Computer Graphics Through OpenGL: From Theory to Experiments, Second Edition Interactive Computer Graphics: A Top-Down Approach with Shader-Based OpenGL (6th Edition) Computer Graphics with OpenGL (3rd Edition) Interactive Computer Graphics: A Top-Down Approach Using OpenGL (5th Edition) Interactive Computer Graphics: A Top-Down Approach Using OpenGL (4th Edition) Interactive Computer Graphics: A Top-Down Approach with OpenGL (2nd Edition) Interactive Computer Graphics: A Top-Down Approach with Shader-Based OpenGL 3D Computer Graphics: A Mathematical Introduction with OpenGL OpenGL Programming Guide: The Official Guide to Learning OpenGL, Version 4.3 (8th Edition) OpenGL Programming Guide: The Official Guide to Learning OpenGL, Versions 3.0 and 3.1 (7th Edition) OpenGL(R) Programming Guide: The Official Guide to Learning OpenGL(R), Version 2.1 (6th Edition) OpenGL Programming Guide: The Official Guide to Learning OpenGL, Version 4.5 with SPIR-V OpenGL Programming Guide: The Official Guide to Learning OpenGL, Version 4.3 HACKING: Beginner's Crash Course - Essential Guide to Practical: Computer Hacking, Hacking for Beginners, & Penetration Testing (Computer Systems, Computer Programming, Computer Science Book 1) WebGL Programming Guide: Interactive 3D Graphics Programming with WebGL (OpenGL) Learning OpenGL ES for iOS: A Hands-on Guide to Modern 3D Graphics Programming The Use of Projective Geometry in Computer Graphics (Lecture Notes in Computer Science) Dad's Book of Awesome Science Experiments: From Boiling Ice and Exploding Soap to Erupting Volcanoes and Launching Rockets, 30 Inventive Experiments to Excite the Whole Family! Graphics Gems IV (IBM Version) (Graphics Gems - IBM) (No. 4)