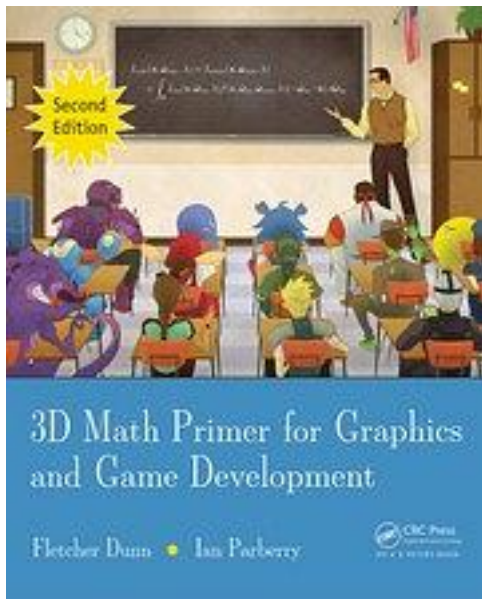


3D Math Primer for Graphics and Game Development, 2nd Edition



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著者:Fletcher Dunn

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This engaging book presents the essential mathematics needed to describe, simulate, and render a 3D world. Reflecting both academic and in-the-trenches practical experience, the authors teach you how to describe objects and their positions, orientations, and trajectories in 3D using mathematics. The text provides an introduction to mathematics for game designers, including the fundamentals of coordinate spaces, vectors, and matrices. It also covers orientation in three dimensions, calculus and dynamics, graphics, and parametric curves.

作者介绍:

Fletcher has been making video games since 1995 and has around a dozen titles under his belt on a variety of gaming platforms. He worked at Terminal Reality in Dallas, where as principal programmer he was one of the architects of the Infernal Engine and lead programmer on BloodRayne. He was a technical director for The Walt Disney Company at Wideload Games in Chicago and the lead programmer for Disney Guilty Party, IGN's E3 2010 Family Game of the Year.

He now works for Valve Software in Bellevue, Washington.

Oh, but his biggest claim to fame by *far* is as the namesake of Corporal Dunn from Call of Duty: Modern Warfare 2.

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标签

数学

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计算机图形学

Graphics

3D

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计算机科学

评论

好书

<http://www.ppurl.com/2012/02/3d-math-primer-for-graphics-and-game-development-2nd-edition.html>

讲得很清楚，能把图形学上基本的变换都理解透彻。

很全面了

书很不错，将图形开发中会涉及到的数学知识介绍了一遍，而且语言通俗易懂。我主要为了看了书中的quaternion一节。发现讲得非常好！干脆把前8章过了一遍。

淺顯易懂，非常適合初學者，如果學完了回過來看又覺得太羅嗦了，400多買的原版，現在想想有點不值了。。。不過靠的這本入門的計算機圖形學。。。。

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书评

学了太多的数学，知道的大多是些枯燥的数字、公式和证明；也难怪，应付过去了考试，大家似乎都亟不可待的忙着忘记这些琐碎、占据空间、折磨人的知识。数学是来自于生活，生动活泼的；但是在学习的过程中，我们好像忘记了数学的起源，也享受不到数学的乐趣。我们学习数学，好...

数学工具的目的 本书的数学工具主要为两个主题服务： 1. 几何构造（Ch8.

矩阵变换、Ch9. 方位和角位移、Ch12. 几何图元、Ch14. 三角网格) 服务于渲染 2. 几何检测 (Ch13 基本图元相交性检测、Ch16 中层和高层 VSD) 服务于渲染和物理 书中有两章是 C++ 实现 (Ch6. 3D 向量类, ...

语言很幽默，把数学与游戏开发中用到的3d知识结合，看起来一点也不枯燥，即使是这些数学知识都熟悉，游戏开发中用到的3d知识也经常用，看这本书也很有收获，能对二者进行关联强化，从而更深地理解二者。看了后神清气爽，如沐春风！

好书！虽然讲得都是数学但是一点也不枯燥，线代方面不仅仅讲了数学意义，还讲了几何意义，cool~而且段代码还有解说，经验讲解。是一本值得实线的书，建议此书后面讲管线光照等就不要看了，因为一共才几页。看过此书后推荐看一下《3D游戏编程大师技巧》了解熟悉各方面的流程， ...

很好的书，各种概念和例子讲的很清楚，语言也比较幽默。推荐看原版，因为单词并不太多而且大量重复，语法也不复杂，读起来不是很费事，另外看到中译本有不少翻译错误，我感觉很多书，尤其是技术类书籍的译者在知识水平上和作者可能是差很多的，所以译文本难免有疏漏，还是原版...

虽然有些许印刷错误或者翻译的小瑕疵，但这本书仍不失为一本好书。之前在阅读龙书的时候，书中示例给出的 Matrix 旋转的代码，虽然不多，可我就是看不下去了，因为不了解其数学原理(数学底子太薄)。这本书就是给我的扫盲，矩阵的旋转，欧拉角，四元数，以及后面的几个图元， ...

真正使的实用数学和软件工程技术结合的典范，绝非闭门造车之物！值得细细品味的难的好书，结合实践与编程的数学，好书值得推荐真正使的实用数学和软件工程技术结合的典范，绝非闭门造车之物！值得细细品味的难的好书，结合实践与编程的数学，好书值得推荐真正使的实用数学和软...

本来就是冲着四元数买的这本书，但是第10章实在槽点太多... 先是公式错误 乘法公式错误：具体可参考<https://book.douban.com/review/4889839/> 这个乘法公式一错，导致P149-150页对于四元数旋转向量部分的推导出现问题。正确公

式是 $p' = qpq^{-1}$ 。也不知道后文写的把逆放在前面...

前段时间看了 cg tutorial，里面的东西很多，也有一些看不明白的地方，这本书算是一个补充，尤其是后面图形数学这一章，和 cg tutorial 相得益彰。这些都只是基础，就像作者在书的最后面所说的，如果要继续学习，应该看看 real time rendering

基础就是基础，所以内容的含金量来说只能是毁誉参半。一本800来页的书也不可能把所有内容涵盖到。所以即便通读此书，你还需要花大力气去看物理引擎，看曲面曲线，还有计算机图形学基础。所以这本书基本上是给你一个蓝图，至于接下来该在这条路上做什么就是因人而异了。

只粗略看了前5章的基础知识和附录A，发现3处明显错误。
这本书从05年印到12年，8年时间竟然还能保留这么多错误。出版社和译者敢用点心？
28页公式4.1
50页垂直向量的计算能用 $\|V\|$ 这个数值减向量？（网上电子版的英文也有此错误）
374页，一角度度等于多少弧度？

本书主要研究隐藏在3D几何世界背后的数学问题。3D数学是一门与计算几何相关的学科，计算几何则是研究怎样用数值方法解决几何问题的学科。3D数学和计算几何广泛应用在那些使用计算机来模拟3D世界的领域，如图形学、游戏、仿真、机器人技术、虚拟现实和动画等。本书涵盖了理论知...

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