

Typos in “Geometric Methods and Applications for Computer Science and Engineering, Second Edition”

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1. Page xvi, Paragraph “New treatment, New Results.” Change “books” to “book.”
2. Page vxiii, Paragraph “How to Use This Book for a Course.” Change “books” to “book.”
3. Page 57, line -2, change “homomorphisms” to “isomorphisms.”
4. Page 193, line -3, the equation for $Q_n(x)$ should be

$$Q_n(x) = \sqrt{\frac{2n+1}{2}} P_n(x).$$

5. Page 201, line 9. Missing period after “upper triangular.”
6. Page 204, in Problem 6.4, second equation of the hint, the two determinants on the left hand side should be swapped.
7. Page 268, lines 12, 14, 16, change U_2P to PU_2 .
8. Page 274, line just above part (c), u should be a unit vector.
9. Page 275, line just above **Remark**, change $\theta \neq k2\pi$ to $\theta \neq 0$.
10. Page 275, in Problem (f), in the formula for $\exp^{-1}(R)$, change $\pm\pi$ to $(2k+1)\pi$, with $k \in \mathbb{Z}$.
11. Page 275, in Problem (f), change the last sentence to: Show that there is a unique skew-symmetric B with corresponding θ satisfying $0 < \theta < \pi$ such that $e^B = R$.

12. Page 286, the proof that $\rho_{Y,Z}$ is rotation if $N(Y)N(Z) = 1$ needs to be fixed. It uses the fact that since $N(Y)N(Z) = 1$, we have $YXZ = (Y/\sqrt{N(Y)})X(Z/\sqrt{N(Z)})$, and both $Y/\sqrt{N(Y)}$ and $Z/\sqrt{N(Z)}$ are unit quaternions.
13. Page 288, change $\rho(Z_1) = \rho(Z_2)$ to $\rho_{Z_1} = \rho_{Z_2}$.
14. Page 288, in Lemma 9.2, change $\sqrt{N(t)}/|a|$ to $\sqrt{N(t)}/a$, and the condition on θ to be $\theta \neq \pi$ and $0 < \theta < 2\pi$. The orientation of the plane orthogonal to the axis of rotation also needs to be specified.
15. The the end of the proof of Lemma 9.2 needs to be corrected to prove that $\tan(\theta/2) = \sqrt{N(t)}/a$.
16. Page 324, line 6, change $\varphi: \mathbb{R} \times \mathbb{R} \rightarrow \mathbb{R}$ to $\varphi: \mathbb{R}^2 \times \mathbb{R}^2 \rightarrow \mathbb{R}$.
17. Page 324, line 11, change “Chapter 11” to “Chapter 6.”
18. Page 349, line 4, change “of f^* ” to “of $f_{\mathbb{C}}^*$.”
19. Page 352, line 4, change $\langle f(u), u \rangle$ to $\langle f(u), v \rangle$.
20. Pages 354-355, in the proof of Theorem 12.5, all occurrences of “ f ” should be “ $f_{\mathbb{C}}$.”
21. Page 368, in Proposition 13.1, the last equation should be $n - \dim(\text{Ker } f) = m - \dim(\text{Ker } f^*)$.
22. Page 371, line 1, change “Schimdt” to “Schmidt.”
23. Page 373, in Definition 13.3, change “wih” to “with” and “A symmetric” to “ S symmetric.”
24. Pages 376-378, in Theorem 13.4, the statement about the uniqueness of h_1 and h_2 is incorrect. This can be corrected by changing slightly the definition of a weakly orthogonal map, and requiring that h_1, h_2 and g have the same rank as f .
25. Page 387, line 5, change “pécédentes” to “précédentes.”
26. Page 391, line 2, in the expression for AA^+ , the subscript $n - r$ should be $m - r$.
27. Page 391, line -7 and -3, n should be m .
28. Page 392, line 1, 2, 3, the subscript $n - r$ should be $m - r$.
29. Page 397, in the proof of Proposition 14.4, p should be n , the subspace V_{k+1} should be U_{k+1} , and (v_1, \dots, v_{k+1}) should be (u_1, \dots, u_{k+1}) .
30. Page 422, line 3, in the third and fourth expression, $\Sigma_r^{-1}c$ should be Σ_r^{-1} .

31. Page 422, line -6, in the left expression, R should be R^\top and S should be S^\top .
32. Page 483, paragraph before Definition 18.5, t is a small real (or complex) number and it is the set of points of the form $a + tu$ that forms an interval $[r, s]$ in A .
33. Page 496, line 5, change “rank m ” to “rank k .” Line 7, Change “Consequently” to “Consequently.”
34. Page 514, next to last line, change $\theta = k2\pi$ to $\theta = 0$.
35. Page 515, line 1, change $\theta \neq k2\pi$ to $\theta \neq 0$.
36. Page 515, in the equation just above part (d), E^A should be e^A .
37. Page 517, line 1, change $\theta = k2\pi$ to $\theta = 0$. Line 3, change $\theta \neq k2\pi$ to $\theta \neq 0$.
38. Page 534, line 17, change “ $f'(c) \neq 0$ for all $c \in]a, b[$ ” to “ $g'(t) \neq 0$ for all $t \in]a, b[$.”
39. Page 589, in Example 20.1, the numerator of the expression for y should be $2bv$ instead of $2bu$.