Linear Algebra for the Young Mathematician–Errata

Most of these errata were found by Bruce Gould and Joel Brewster Lewis and his students, whom the author sincerely thanks.

Page 19, line 12: Delete the word homogeneous

Page 20, line 3: $2a'_{22}x_2$ should be $a'_{22}x_2$

Page 20, line -10: $\{u_1, u_2, \ldots, u_m\}$ should be $\{u_1, u_2, \ldots, u_n\}$

Page 21, line 21: $\mathcal{T}(v_2)$ should be $\mathcal{T}_A(v_2)$

Page 21, line 23: $+$ should be $=$

Page 22, line -9: Definition 1.2.10 should be Definition 1.2.9

Page 26, problem 6: The bottom entry of v_2 should be 9

Pages 26 and 27, problems 8, 9, and 10: all occurrences of $\mathbb{F}$ should be $\mathbb{R}$

Page 50, fourth sentence: (-3) row 3 to row 2 should be (-2) row 3 to row 2

Page 50, line -3: *row-reduced echelon form* should be *reduced row-echelon form*

Page 50, line -2: *some zero* should be *some zero row*

Page 52 second displayed formula: x_{1j_1} should be x_{j_1} and similarly for x_{2j_2} and x_{kj_k}

Page 55 Problem 6(b): $ab - bc$ should be $ad - bc$

Page 69, line 6: which reduces to $\begin{bmatrix} 1 & 1 & 2 & | & 3 \\ 0 & 1 & 3 & | & 4 \\ 0 & 0 & 1 & | & 2 \\ 0 & 0 & 0 & | & 0 \end{bmatrix}$ should be which reduces to $\begin{bmatrix} 1 & 1 & 2 & | & 3 \\ 0 & 1 & 3 & | & 5 \\ 0 & 0 & 1 & | & 2 \\ 0 & 0 & 0 & | & 0 \end{bmatrix}$

Page 70, line 11: (d) should be (b)

Page 71 statement of Lemma 3.3.4: *with* $n > m$ should be *with* $n > m$ *(possibly* $n = \infty$ *)*

Page 71 proof of Lemma 3.3.4: Insert as first line of proof: Since $\mathcal{D}$ is linearly dependent if any subset of it is, it suffices to consider the case $\mathcal{D}$ finite.

Page 73, line -12: set of n vectors should be set of m vectors

Page 73, line -11: which has $m < n$ vectors should be which has $n < m$ vectors

Page 75 lines -13 and -11: in V should be in $\mathcal{B}$

Page 75 line -12: in v should be in $\mathcal{B}$

Page 79, line -1: subset should be subspace

Page 81, lines 10, 11: All four occurrences of S should be $\text{Span}(S)$

Page 81, line -11: $\text{Span}(W)$ should be W

Page 87, line -5: see every should be see that every

Page 93, line -8: $v = t_1 + w$ should be $v = t_1 + w_1$

Page 97, Problem 6(f): $2 + 3 + 7x^2 + 9x^3$ should be $2 + 3x + 7x^2 + 9x^3$

Page 101, Exercise 18: function should be continuous function

Page 110, line -7: Corollary 3.5.7 should be Corollary 4.2.7

Page 112 lines -13, -7: B should be $\mathcal{B}$

Page 112, line -6: $\mathcal{T}(v) = \sum c_i v_i$ should be $\mathcal{T}(v) = \sum c_i \mathcal{T}(v_i) = \sum c_i w_i$

Page 114, line -11: C should be $\mathcal{C}$

Page 115, lines 19 and 21: Lemma 4.3.7(1) should be Lemma 4.3.7(2) and Lemma 4.3.7(2) should be Lemma 4.3.7(1)

Page 115, line -1: Definition 3.3.1 should be Definition 4.1.1

Page 120, line -8: Let is should be Let us

Page 122, line -3: *invertible* should be *invertible*, or *nonsingular*,

Page 131, line -13: $\mathrm{Int}_a(\mathrm{Der}(f(x)))$ should be $\mathrm{Int}_a(\mathrm{Der}(F(x)))$

Page 186 line 19: $[T]_{\mathcal{B}}$ should be $[\mathcal{T}]_{\mathcal{B}}$

Page 196, lines 1-2: v_1 has length 1 should be v_1 has length 5

Page 224, line -1: $\begin{bmatrix} -30 & 36 \\ -25 & 30 \end{bmatrix}$ should be $\begin{bmatrix} -30 & 36 \\ -25 & 30 \end{bmatrix} \begin{bmatrix} 6 \\ 5 \end{bmatrix}$

Page 225, line -8: eigenvector 0 should be eigenvalue 0

Page 299, line -2: *in* V should be *on* V

Page 312, line 2: $[\varphi]$ should be $[\overline{\varphi}]$

Page 312, line 16: $\psi(x, \mathcal{T}^*(y))$ should be $\varphi(x, \mathcal{T}^*(y))$

Page 332, line -1: $(\langle z, x_i \rangle / \|x_i\|)^2$ should be $(\langle z, x_i \rangle / \|x_i\|^2)$

Page 333, line 5: $(\langle w_0, x_i \rangle / \|x_i\|)^2$ should be $(\langle w_0, x_i \rangle / \|x_i\|^2)$