Corrections to Randomized Algorithms

- All occurrences of "Cauchy-Schwartz" should read "Cauchy-Schwarz".
- Page ix of the Preface: The last sentence should read

  The Appendices review basic material on probability theory.
- Page 6, line 19

  see Problem 4.15

  should be

  see Problem 4.14
- Page 8, Definition 1.1, first line

  neighborhood of G

  should be

  neighborhood of v
- Page 22, Exercise 1.10,

  $1/2 + 1/2^n$

  should be

  $1/2 - 1/2^n$
- Page 30, line 14

  With probability 1/2 both sub-trees

  should be

  With probability at most 1/2 both sub-trees
- Page 30, fifth line from the bottom

  "... algorithm is $n^{\log_4 3}$,"

should be

"... algorithm is at most $n^{\log_4 3}$,"

Similarly, the first sentence (second line) of Section 2.2

"... time of $n^{0.793}$"

should be

"... time of at most $n^{0.793}$"

- Page 39, fifth line from the bottom,

  $\mathrm{O}(n)$

  should be

  $n + 1$

- Page 40 line 13,

  uses the the

  should be

  uses the

- Page 44, eighth line from the bottom, the value of k^* should be given by

  Let $k = \lceil (3 \ln n)/ \ln \ln n \rceil$.

- Page 48, fifth line from the bottom

  "... (or if b is smaller than or equal to $S_{(k)}$),"

  should be

  "... (or if b is smaller than $S_{(k)}$),"

- Page 50, 13th line from the top, the first $=$ should be $\leq$.

- Page 50, last line of Exercise 3.5

in Problem 4.16.

should be

in Problem 4.15.

- Page 52, first line

  "... field of"

  should be

  "... ring of"

- Page 57, third line of Section 3.6,

  "... random choice of the coupons"

  should be

  "... random choices of the coupons"

- Page 61, formula above "Putting all this ..." should be

$$\lim_{n\to\infty} \binom{n}{k} / \frac{n^k}{k!} = 1.$$

- Page 63, final displayed equation (after "Thus, we obtain that")

$$\lim_{n\to\infty} \mathbf{Pr}[n(\ln n - c) \leq X \leq n(\ln n + c)] = e^{-e^c} - e^{-e^{-c}}.$$

  should be

$$\lim_{n\to\infty} \mathbf{Pr}[n(\ln n - c) \leq X \leq n(\ln n + c)] = e^{-e^{-c}} - e^{-e^c}.$$

- Page 73, line 10

(4.11)

should be (4.1)

- Page 81, third paragraph

  Chapter 9.10

  should be

  Section 9.10

- Page 125, Problem 5.8(b), the probability

  $\exp(-n^{3/4}/12)$

  should be

  $\exp(-n^{3/4}/24)$.

- Page 130, line 13 formula for h_{ij} should be

$$h_{ij} = \sum_{t>0} t\, r_{ij}^{(t)}$$

  for $f_{ij} = 1$, and $h_{ij} = \infty$ otherwise.

- Pages 132-133: Replace the proof of Lemma 6.3 by

  From the fact that $\boldsymbol{\pi}$ is stationary and the definition of P_{uv} we get the following system of equations

$$\boldsymbol{\pi}_v = [\boldsymbol{\pi}\boldsymbol{P}]_v = \sum_{u\ v} \boldsymbol{\pi}_u P_{uv}, \text{ for all } v$$

  This system admits the solution $\boldsymbol{\pi}_u = d(u)/2m$ which, by Theorem 6.2, is the unique stationary distribution. $\square$

- Page 200, second line from the bottom

logarithmic

should be

linear

- Page 209, line -3:

  sits above each

  should be

  is created for an

- Page 210, Figure 8.5, the contents of the lower left most box

  $[-\infty, 2]$

  should be

  $[-\infty, 1]$

- Page 211, seventh line from the bottom

  $r = \max_i X_i$

  should be

  $r = 1 + \max_i X_i$

- Page 212, fourth line from the bottom, delete

  $= \mathrm{O}(N)$.

- Page 219, third line from the bottom

  We the family

  should be

  We define the family

- Page 247, Theorem 9.4, third line

Delaunay triangulation

should be

Voronoi diagram

- Page 274, formula above the last line, the fourth root should be a square root.

- Page 295, ninth line from the bottom, the right hand side of the displayed equation

  $k + H_{k-1} + 3,$

  should be

  $k + H_{k-1} + 4,$

- Page 341, second line from the bottom

  and m edges.

  should be

  and $m = \Omega(n)$ edges.

- Page 345, line 11:

  Combining these two lemmas, we obtain the following.

  should be

  Let v be a good vertex with $d(v) > 0$, and consider the event $\mathcal{E}$ that some vertex in $\Gamma(v)$ does indeed get marked. Let w be the lowest-numbered marked vertex in $\Gamma(v)$. By Lemma 12.4, the probability that w is selected to be in S is at least $1/2$. Clearly, if $w \in S$, then v must belong to $S \cup \Gamma(S)$. Using the bound on the probability of the event $\mathcal{E}$ from Lemma 12.3, we obtain the following.

- Page 390, last line of Problem 13.4(c)

can prove

should be

you can prove

- Page 401, displayed equation on line 12, replace both occurrences of a^l by r^l.

- Page 443, Proposition C.7 part 3

  For a non-negative integer-valued random variable X, $\mathbf{E}[X] = \sum_{x=0}^{\infty} \mathbf{Pr}[X \geq x]$.

  should be

  For a non-negative integer-valued random variable X, $\mathbf{E}[X] = \sum_{x=0}^{\infty} \mathbf{Pr}[X > x]$.

- Page 454, citation 155, the journal is *SIAM Journal on Algebraic and Discrete Methods.*

- Page 457, in citations 220 and 221, the word "column" is mis-spelt.

- Page 459, citation 262 should be pages 323–350.

- Page 464, citation 385 should be *Communications of the ACM,* 20(11):841–850, 1977.

- Page 473, in the Index,

  Pólya, G.,

  is incorrectly sorted and appears before

  packet routing