Formal Verification of Probabilistic Systems

ERRATA

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March 10, 1998

Abbreviations

lft: Lines from top (equations, section titles, etc included, page headers not included).

lfb: Lines from bottom (equations, section titles, etc included).

eq: Numbered equation

Errata

p. vi, lft 7
Error: readings and orals committee
Correction: reading and orals committees

p. 45, lft 14
Error: $sa(C, D) \subset sa(C'', D'') \subseteq (C, D)$
Correction: $sa(C, D) \subset sa(C'', D'') \subseteq sa(C', D')$

p. 52, lft 4
Error: $s \in S - U$
Correction: $s \in S - U, a \in A(s)$

p. 52, lft 8
Error: *iff*
Correction: *if*

p. 56, lfb 9
Error: Let B' be the set of states that cannot reach S_ϕ in the graph $(S', \rho_{(S',A')})$.
Correction: Let B' be the subset of states of S' that cannot reach U in the graph $(S', \rho_{(S',A')})$.

p. 56, lfb 5
Error: $s \notin S_\phi$
Correction: $s \notin U$

p. 64, lfb 2
Error: If $a \in A(s)$
Correction: If $a \in A(s) - D_i(s)$

p. 64, lfb 7
Error: *Fact 1. If* $\boldsymbol{v}^\bullet = \widetilde{L}\boldsymbol{v}^\bullet$ *is a fixpoint of* $\widetilde{L}$*, and* $s, t \in B_i$*, for* $1 \leq i \leq n$*, then* $v^\bullet_s = v^\bullet_t$.
Correction: *Fact 1. If* $\boldsymbol{v} = \widetilde{L}\boldsymbol{v}$ *is a fixpoint of* $\widetilde{L}$*, and* $s, t \in B_i$*, for* $1 \leq i \leq n$*, then* $v_s = v_t$.

p. 65, eq (3.21)
Error: $\arg\max_{a \in \widetilde{A}}$
Correction: $\arg\max_{a \in \widetilde{A}(s)}$

p. 66, lft 1
Error: $s \neq t_i$ (where $\langle t_i, a_i \rangle$
Correction: $s \neq u_i$ (where $\langle u_i, a_i \rangle$

p. 66, lft 4
Error: $s = t_i$
Correction: $s = u_i$

p. 93, lft 5
Error: distinguished initial state
Correction: distinguished set of initial states

p. 93, lfb 8
Error: for all $u, v_1, v_1 \in V$
Correction: for all $u, v_1, v_2 \in V$ with $v_1 \neq v_2$

p. 93, lfb 5
Error: for every $v \in V$
Correction: for every $u \in V$

p. 95, lft 9
Error: $\langle s, u \rangle$
Correction: $\langle s, u \rangle \in S \times V$

p. 106, lft 12–13
Error: The transformation does not change the state space of Π_i, and it does not affect the long-run average outcome of experiments.
Correction: The transformation does not affect the long-run average outcome of experiments.

p. 106, lft 15
Error: do not diverge to $-\infty$ or $+\infty$
Correction: do not diverge to $+\infty$

p. 106, lfb 8
Error: $(M_s \subseteq \mathcal{L})$
Correction: $(M_s \subseteq K^+)$

p. 108, lft 8
Error: (computation of λ^-)
Correction: (computation of λ^+)

p. 111, lft 4
Error: $t \in \bigcup_{a \in A(s)} \mathrm{Succ}(s, a)$
Correction: $t \in \bigcup_{a \in C(s)} \mathrm{Succ}(s, a)$

p. 111, lft 7
Error: $\bigcup_{a \in A(s)}$
Correction: $\bigcup_{a \in C(s)}$

p. 111, lft 11
Error: $\Pr^{\eta}_{\langle s,v \rangle}$
Correction: $\Pr^{\eta}_{s}$

p. 128, lft 5

Error: From the sequence $\{n_k\}_{k\geq 0}$ we can extract a subsequence $\{n_l\}_{l\geq 0}$ such that $\lim_{l\to\infty} \boldsymbol{u}^{\eta}_{s,n_l} = \boldsymbol{u}$, for some $\boldsymbol{u} \in \bar{U}$.

Correction: From the sequence $\{n_k\}_{k\geq 0}$ we can extract a subsequence $\{n_l\}_{l\geq 0}$ such that $\lim_{l\to\infty} \boldsymbol{u}^{\eta}_{s,n_l} = \boldsymbol{u}$. By [Der70, Chapter 7, Theorem 2], it is $\boldsymbol{u} \in \bar{U}$.

p. 150, lft 15

Error: $[v_{s_1}\ v_{s_2}\ v_{s_3}\ v_{s_4}]^t$

Correction: $[v_{s_1}\ v_{s_2}\ v_{s_3}]^t$

p. 150, lft 16

Error: $[3 \quad 2 \quad 2 \quad 1]^t - x[1 \quad 1 \quad 1 \quad 0]^t$

Correction: $\boldsymbol{v}(x) = [3 \quad 2 \quad 2]^t - x[1 \quad 1 \quad 1]^t$

p. 155, lft 8

Error: $\sum_{t\in S-U} p_{st}(a)\, v_t$

Correction: $\sum_{t\in S-U} p_{st}(a)\, v^{\bullet}_t$

p. 156, lft 1

Error: Let $\widetilde{L}$ be the operator defined for $\widetilde{\Pi}$ in the same way as L for Π, and let $\boldsymbol{v}^{\bullet} = \widetilde{L}\boldsymbol{v}^{\bullet}$ be a fixpoint of $\widetilde{L}$.

Correction: Let $\widetilde{L}$ be the operator defined for $\widetilde{\Pi}$ in the same way as L for Π.

p. 156, lft 12

Error: *Fact 1. If* $\boldsymbol{v}^{\bullet} = \widetilde{L}\boldsymbol{v}^{\bullet}$ *is a fixpoint of* $\widetilde{L}$, *and* $s, t \in B_i$, *for* $1 \leq i \leq n$, *then* $v^{\bullet}_s = v^{\bullet}_t$.

Correction: *Fact 1. If* $\boldsymbol{v} = \widetilde{L}\boldsymbol{v}$ *is a fixpoint of* $\widetilde{L}$, *and* $s, t \in B_i$, *for* $1 \leq i \leq n$, *then* $v_s = v_t$.

p. 157, lft 5

Error: $\sum_{t\in S-U} \widetilde{p}_{st}(\eta(s))\, v_t + \sum_{t\in U} \widetilde{p}_{st}(\eta(s))\, g(t)$

Correction: $\sum_{t\in S-U} p_{st}(\eta(s))\, v_t + \sum_{t\in U} p_{st}(\eta(s))\, g(t)$

p. 157, lft 8

Error: $s \neq t_i$ (where $\langle t_i, a_i\rangle$

Correction: $s \neq u_i$ (where $\langle u_i, a_i\rangle$

p. 157, lft 12

Error: $s = t_i$

Correction: $s = u_i$

p. 184, lfb 13

Error: *having* P

Correction: *having* $P(x)$

p. 197, lfb 12

Error: Some Immediate Action Enabled

Correction: Some Immediate Transition Enabled