

Errata to: Lars Engebretsen, *Approximating generalizations of Max Cut*. Licentiate's Thesis, Department of Numerical Analysis and Computing Science, Royal Institute of Technology. May, 1998.

- Page 3, third last line: Change “2 and 4” to “3 and 5”.
- Page 20, just below Eq. 3.10: Change “use use” to “use”.
- Page 25, the first line of the last paragraph: Change “for $p < 23$ ” to “for small p ”.
- Page 35, change the first paragraph to: To show that it is always possible to approximate the optimum within $(1 - \kappa(m))m$, only a slight modification of the above procedure is necessary: If the optimum is close to all equations, then the first prime factor p in m has the property that when we study the system mod p in the iterative procedure above the semidefinite optimum is large, in the sense of Lemma 3.8. For this p , we use the rounded semidefinite solution to solve the system mod p . For all other factors in m we use the naive randomized heuristic described above. This will give a solution which approximates the optimum within $(1 - \kappa(p))m < (1 - \kappa(m))m$.
- Page 41, change step 3a in Algorithm 4.6 to: Let $\pi' = \pi$. For $i \in \{1, \dots, \ell\}$, an assignment $\Pi_\pi^i: V^i \mapsto \mathbf{Z}_p$ is constructed as follows: For each $v \in V^i$, let $j^*(v)$ be the $j \in \mathbf{Z}_p$ which maximizes $S(U^i, \pi', v \leftarrow j)$. Then define $\Pi_\pi^i(v) = j^*(v)$. Modify π' such that $\pi'|_{V^i} = \Pi_\pi^i$.
- Page 46, the first three lines: Remove $/2$ in the first three expressions containing ε_1 , and remove 2 from the denominator in the last expression containing ε_1 .
- Page 46, Eq. 4.31: Remove 2 from the denominator in the term containing ε_1 .
- Page 46, change the line below Eq. 4.31 to: If we select $\ell = p^2/\varepsilon$, $\varepsilon_1 = \varepsilon/4p^2$, $\varepsilon_2 = \varepsilon/8p$, and $\varepsilon_3 = \varepsilon/3p$, the total decrease is
- Page 47, Eq. 4.37: Change “ \implies ” to “ \iff ”.
- Page 50, Eqs. 4.61 and 4.62: Remove $k!$ from the denominator.
- Page 51, Eq. 4.66: Change $k!$ to $(k-1)!$ in the denominator. Change Eqs. 4.68–4.71 to

$$\begin{aligned}\ell &= 2p^2/\varepsilon, \\ \varepsilon_1 &= \varepsilon(k-1)!/4p^2, \\ \varepsilon_2 &= \varepsilon(k-1)!/8p, \\ \varepsilon_3 &= \varepsilon(k-1)!/3p,\end{aligned}$$