ERRATA FOR SPARSE DICTIONARY LEARNING FROM 1-BIT DATA

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ABSTRACT

We describe a few brief corrections to our paper "Sparse Dictionary Learning from 1-bit Data" appearing at the 2014 International Conference on Acoustics, Speech, and Signal Processing."

1. ERRATA

We note the following corrections to the paper:

- The sentence below equation (2) in Section 3 should read:
  "The condition (2) is the well-known Kraft-McMillan Inequality from coding theory; using this interpretation we have that for any $\mathcal{X}$ we may satisfy the condition (2) by constructing any binary *uniquely decodable code* over $\mathcal{X}$."

- The matrix norms appearing in our bounds of equation (4) and Corollary 3.1 should be in terms of the squared *Frobenius* norm; that is, $\|\mathbf{X}^* - \widehat{\mathbf{X}}\|_2^2$ should be replaced by $\|\mathbf{X}^* - \widehat{\mathbf{X}}\|_F^2$ on the left-hand side of the expressions of equation (4) and in the statement of Corollary 3.1, and $\|\mathbf{X}^* - \mathbf{X}\|_2^2$ should be replaced by $\|\mathbf{X}^* - \mathbf{X}\|_F^2$ on the right-hand side of equation (4).

- The first sentence in the second paragraph of Corollary 3.1 should read:
  "Consider candidate reconstructions $\mathbf{X}$ of the form $\mathbf{X} = \mathbf{DA}$, where for a sufficiently large integer $q > 2$, each element $D_{i,j}$ takes values on one of $(mn)^q$ possible uniformly discretized values in the range $[-1, 1]$, $\mathbf{A}$ is such that each nonzero element $A_{i,j}$ takes values one of $(mn)^q$ possible uniformly discretized values in the range $[-A_{\max}, A_{\max}]$, *and* $\max_{i,j} |X_{i,j}| \leq X_{\max}$."

- The last sentence in the first paragraph of the proof sketch for Corollary 3.1 should read:
  "Such codes are *uniquely decodable*, so satisfy (2)."