

Correction

Correction to “Generalized Orthogonal Matching Pursuit”

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In the original paper [1], there are two errors that are noted and corrected herein.

On page 6204 of [1], a plus sign rather than a minus sign was incorrectly indicated in equation (10). Equation (10) is corrected as follows:

$$= (\Phi'_{\Lambda^s} \Phi_{\Lambda^s})^{-1} \Phi'_{\Lambda^s} (\Phi_{\Lambda^s} \mathbf{x}_{\Lambda^s}) - (\Phi'_{\Lambda^s} \Phi_{\Lambda^s})^{-1} \Phi'_{\Lambda^s} \Phi_{\Lambda^s - T} \mathbf{x}_{\Lambda^s - T} \quad (10)$$

In addition, on page 6211, there is an error in the title of Table I. The corrected title and table is herein provided.

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TABLE I
GOMP ALGORITHM

Input:	measurements $\mathbf{y} \in \mathbb{R}^m$, sensing matrix $\Phi \in \mathbb{R}^{m \times n}$, sparsity K , number of indices for each selection N ($N \leq K$ and $N \leq m/K$).
Initialize:	iteration count $k = 0$, residual vector $\mathbf{r}^0 = \mathbf{y}$, estimated support set $\Lambda^0 = \emptyset$.
While	$\ \mathbf{r}^k\ _2 > \epsilon$ and $k < \min\{K, m/N\}$ do $k = k + 1$.
	(Identification) Select indices $\{\phi(i)\}_{i=1,2,\dots,N}$ corresponding to N largest entries (in magnitude) in $\Phi' \mathbf{r}^{k-1}$.
	(Augmentation) $\Lambda^k = \Lambda^{k-1} \cup \{\phi(1), \dots, \phi(N)\}$.
	(Estimation of $\hat{\mathbf{x}}_{\Lambda^k}$) $\hat{\mathbf{x}}_{\Lambda^k} = \arg \min_{\mathbf{u}} \ \mathbf{y} - \Phi_{\Lambda^k} \mathbf{u}\ _2$.
	(Residual Update) $\mathbf{r}^k = \mathbf{y} - \Phi_{\Lambda^k} \hat{\mathbf{x}}_{\Lambda^k}$.
End	
Output:	$\hat{\mathbf{x}} = \arg \min_{\mathbf{u}: \text{supp}(\mathbf{u}) = \Lambda^k} \ \mathbf{y} - \Phi \mathbf{u}\ _2$.

REFERENCES

- [1] J. Wang, S. Kwon, and B. Shim, “Generalized orthogonal matching pursuit,” *IEEE Trans. Signal Process.*, vol. 60, no. 12, pp. 6202–6216, Dec. 2012.