# Corrigendum for: Ryan V. Self et al. "Online observer-based inverse reinforcement learning". In: *IEEE Control Syst. Lett.* 5.6 (2021), pp. 1922–1927. DOI: 10.1109/LCSYS.2020.3046527

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1. Page 1923: the definitions of the ideal weights have unnecessary factors of 2, they should be:

$$W_V^* = \left[S_{11}, S_1^{(-1)}, S_{22}, S_2^{(-2)}, \ldots, S_{n-1}^{-(n-1)}, S_{nn}\right]^T,$$
$$W_Q^* = \left[Q_{11}, Q_1^{(-1)}, Q_{22}, Q_2^{(-2)}, \ldots, Q_{n-1}^{-(n-1)}, Q_{nn}\right]^T,$$
$$W_R^* = \left[R_{11}, R_1^{(-1)}, R_{22}, R_2^{(-2)}, \ldots, R_{m-1}^{-(m-1)}, R_{mm}\right]^T.$$

2. Page 1923: After Equation 3, the size of the zero matrix in the expression for $\sigma_{\Delta_u'}$ should be $m \times P$, not $m \times n$.

3. Page 1923: The expression for $\sigma_{R2}(u)$ is incorrect, it should be:

$$\sigma_{R2}(u) = \begin{bmatrix} u^T & 0_{1\times m-1} & 0_{1\times m-2} & \cdots & 0 \\ u_{(1)}e_{2,m} & \left(u^{(-1)}\right)^T & 0_{1\times m-2} & \cdots & 0 \\ u_{(1)}e_{3,m} & u_{(2)}e_{2,m-1} & \left(u^{(-2)}\right)^T & \cdots & 0 \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ u_{(1)}e_{m,m} & u_{(2)}e_{m-1,m-1} & u_{(3)}e_{m-2,m-2} & \cdots & \left(u^{-(m-1)}\right)^T \end{bmatrix},$$

where $e_{i,j}$ denotes a row vector of size $j$, with a one in the $i-$th position and zeros everywhere else.