Algorithm 1 Base Line

procedure MAIN
    $EPISODES \leftarrow N$
    $ITERATIONS \leftarrow M$
    $K \leftarrow$ *Number of joints*
    constraint $\leftarrow$ *Max joint velocity*
    Start environment

    for $i \leftarrow 1,$ *EPISODES* **do**
        for $j \leftarrow 1,$ *ITERATIONS* **do**
            while *constraint is not satisfied* **do**
                Sample new set of actions $\{a_{k,j}\}_{k=1}^{K}$ with $\mathcal{N}(0, \frac{constraint}{\sqrt{2}})$
            Interpolate trajectory between $\{a_{k,j-1}\}_{k=1}^{K}$ and $\{a_{k,j}\}_{k=1}^{K}$
            Reset environment

Algorithm 2 Autoencoder

procedure MAIN
    $EPISODES \leftarrow N$
    $ITERATIONS \leftarrow M$
    $K \leftarrow$ *Number of joints*
    constraint $\leftarrow$ *Max joint velocity*
    Initialize Autoencoder

    for $i \leftarrow 1,$ *EPISODES* **do**
        for $j \leftarrow 1,$ *ITERATIONS* **do**
            while *constraint is not satisfied* **do**
                $\{a_{k,j}\}_{k=1}^{K} \leftarrow \underset{x}{\text{argmin}}$
            Interpolate trajectory between $\{a_{k,j-1}\}_{k=1}^{K}$ and $\{a_{k,j}\}_{k=1}^{K}$
            Add current state and action $\{s_k, a_{k,j}\}_{k=1}^{K}$ to replay buffer R
            Reset environment

        Train Autoencoder
        Save hidden layer data

Algorithm 3 PCA

procedure MAIN
    $EPISODES \leftarrow N$
    $ITERATIONS \leftarrow M$
    $K \leftarrow$ *Number of joints*
    constraint $\leftarrow$ *Max joint velocity*

    for $i \leftarrow 1,$ *EPISODES* **do**
        for $j \leftarrow 1,$ *ITERATIONS* **do**
            while *constraint is not satisfied* **do**
                Calculate new set of desired actions $\{a_{k,j}\}_{k=1}^{K}$ with CMA-ES
            Interpolate trajectory between $\{a_{k,j-1}\}_{k=1}^{K}$ and $\{a_{k,j}\}_{k=1}^{K}$
            Add current state and action $\{s_k, a_{k,j}\}_{k=1}^{K}$ to replay buffer R
            Fit PCA with state-action-pairs from replay buffer R
            Reset environment