Algorithm *Episode(S, $||.||_J$)*

($*$ Build a RRT using value functions in dyna framework $*$)

1. V(G) $\leftarrow x_{start}$; E(G) $\leftarrow \phi$
2. **while** goal is not reached
3. $x_{rand} \leftarrow$ Sample(S);
4. $x_{near} \leftarrow$ Modified-Nearest(x_{rand}, V(G) , $||.||_J$);
5. $(x_{new}, a, r) \leftarrow$ Extend(x_{near}, x_{rand}, S);
6. **if** Not-Colliding(x_{new}, x_{near},S)
7. **then** Connect x_{new} to x_{near}
8. V(G) $\leftarrow$ V(G) U x_{new}
9. E(G) $\leftarrow$ E(G) U (x_{new}, a, r)
10. $J(x_{near}) \leftarrow (1-\alpha)J(x_{near} + \alpha(r + \gamma J(x_{new})))$
11. J $\leftarrow$ RRT-Planning(G, J, number of iteration)
12. return G
13. End of Algorithm