Benign example "duck": 42.0% confidence



 $+ \epsilon \times$



 $\mathrm{sign}\left(\nabla_{\boldsymbol{x}}J(\boldsymbol{\theta},\boldsymbol{x})\right)$

Adversarial example

"duck": 0.01% confidence platypus": 15.2% confidence



 $x + \epsilon \operatorname{sign}(\nabla_x J(\boldsymbol{\theta}, \boldsymbol{x}))$