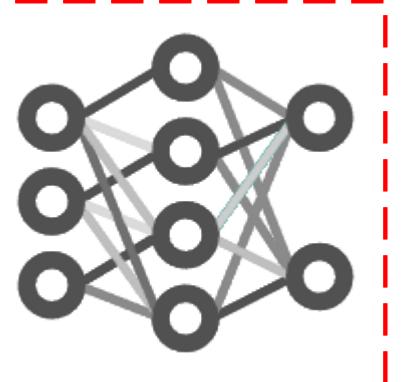


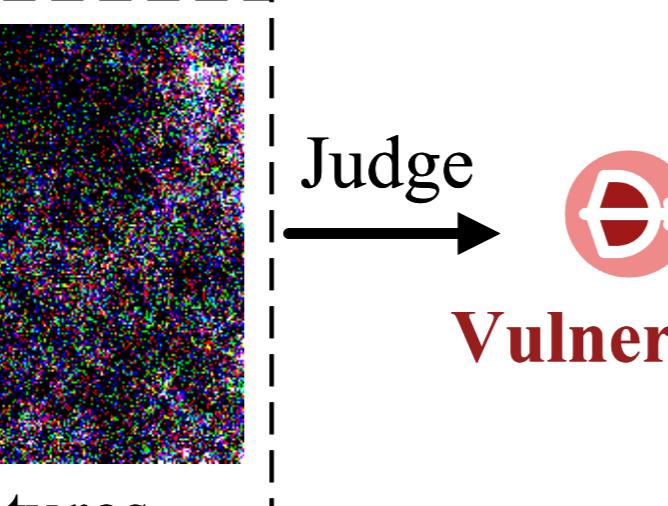
Benign sample



Classifier

Robustness and vulnerability  
feature extraction

→ Forward



Model-dependent

Visually uninterpretable

Judge



Vulnerable



Benign sample



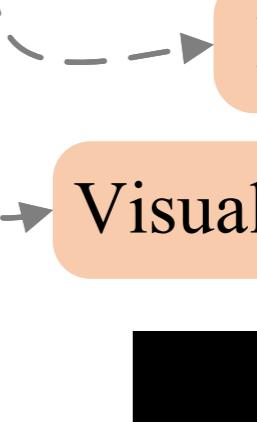
Semantic object



Image texture



Object texture



Model-free

Visually interpretable

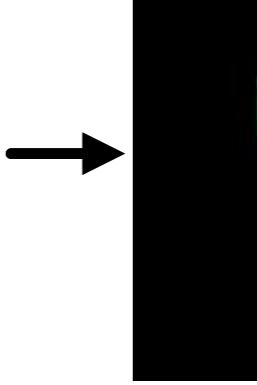


Image texture



Object texture



Visually interpretable

Model-free



Image texture



Object texture

Sum

12349.8

OTI

→ Forward

Judge

Vulnerable

(a) Conventional model-dependent sample robustness measure

→ Object extraction

→ Texture extraction

→ Forward

○ Hadamard product

(b) Pipeline of the proposed model-free object texture intensity measure