A Stackelberg security Markov game based on partial information for strategic decision making against unexpected attacks

Albarrana, Silvia E.; Clempner, Julio B.

Resumen. Este trabajo considera una importante clase de problemas de seguridad Stackleberg, que se caracterizan por el hecho de que tanto defensores como atacantes tienen información incompleta en cada etapa acerca del valor del estado actual. La incapacidad para observar el estado exacto es motivada por el hecho de que es imposible medir exactamente las variables de estado de defensores y atacantes. La mayoría de los enfoques existentes para juegos computacionales de seguridad Stackleberg no dan garantía de si el modelo estimado es inexacto.

Abstract. This paper considers an important class of Stackelberg security issues characterized by the fact that both defenders and attackers have incomplete information on the value of the current state at each stage. The inability to perceive the true state stems from the fact that it is impossible to measure accurately the state

variables of defenders and attackers. Most current approaches for Stackelberg security computer games provide no guarantee as to whether the estimated model is inaccurate.

Referencia bibliográfica.

Albarrana, S. E., & Clempner, J. B. (2019). A Stackelberg security Markov game based on partial information forstrategic decision making against unexpected attacks. *Engineering Applications of Artificial Intelligence*, 81, 408–419. doi: https://doi.org/10.1016/j.engappai.2019.03.010