



UNIVERSITY OF SOUTH ALABAMA

3 March 2025

To the Selection Committee:

I wish to nominate the paper Enhancing Explainability and Trustworthiness of Intrusion Detection Systems Using Competitive Learning for the Science of Security award in the NSA Best Scientific Cybersecurity Paper Competition. The work by Jesse Ables, Thomas Kirby, William Anderson, Sudip Mittal, Shahram Rahimi, Ioana Banicescu, Thomas Arnold, and Joseph Jabour was published in 2024 represents a key contribution in the area of AI explainability, furthering our need to understand the trustworthiness and veracity of machine learning models that are used for intrusion detection. The proposed white-box IDS that is described in the paper represents an advancement in applied competitive learning based on DARPA's guidelines for explainable system. The work employs variations of self-organizing maps in a novel framework that illustrates one method of leveraging competitive learning to achieve improved accuracy and explainability. Such results help further the goal of securing AI systems by providing white-box understanding and also guides future research directions based on the study's empirical results. I thank you for your consideration of the paper for the award.

Sincerely,

A handwritten signature in black ink that reads "Jeffrey T. McDonald".

Jeffrey T. McDonald, Ph.D.
Director, Center for Forensics, Information Technology, and Security
Professor of Computer Science
School of Computing
University of South Alabama
Email: jtmcdonald@southalabmama.edu
Phone: 850-322-7866

SCHOOL of COMPUTING

Shelby Hall | 150 Student Services Drive, Suite 2101 | Mobile, Alabama 36688-0002
TEL: (251) 460-6390 | FAX: (251) 460-7274 | www.southalabama.edu/colleges/soc/