2015 SYMPOSIUM & BOOTCAMP URBANA IL HOTSOS ON THE SCIENCE OF SECURITY

Systematization of Metrics in Intrusion Detection Systems

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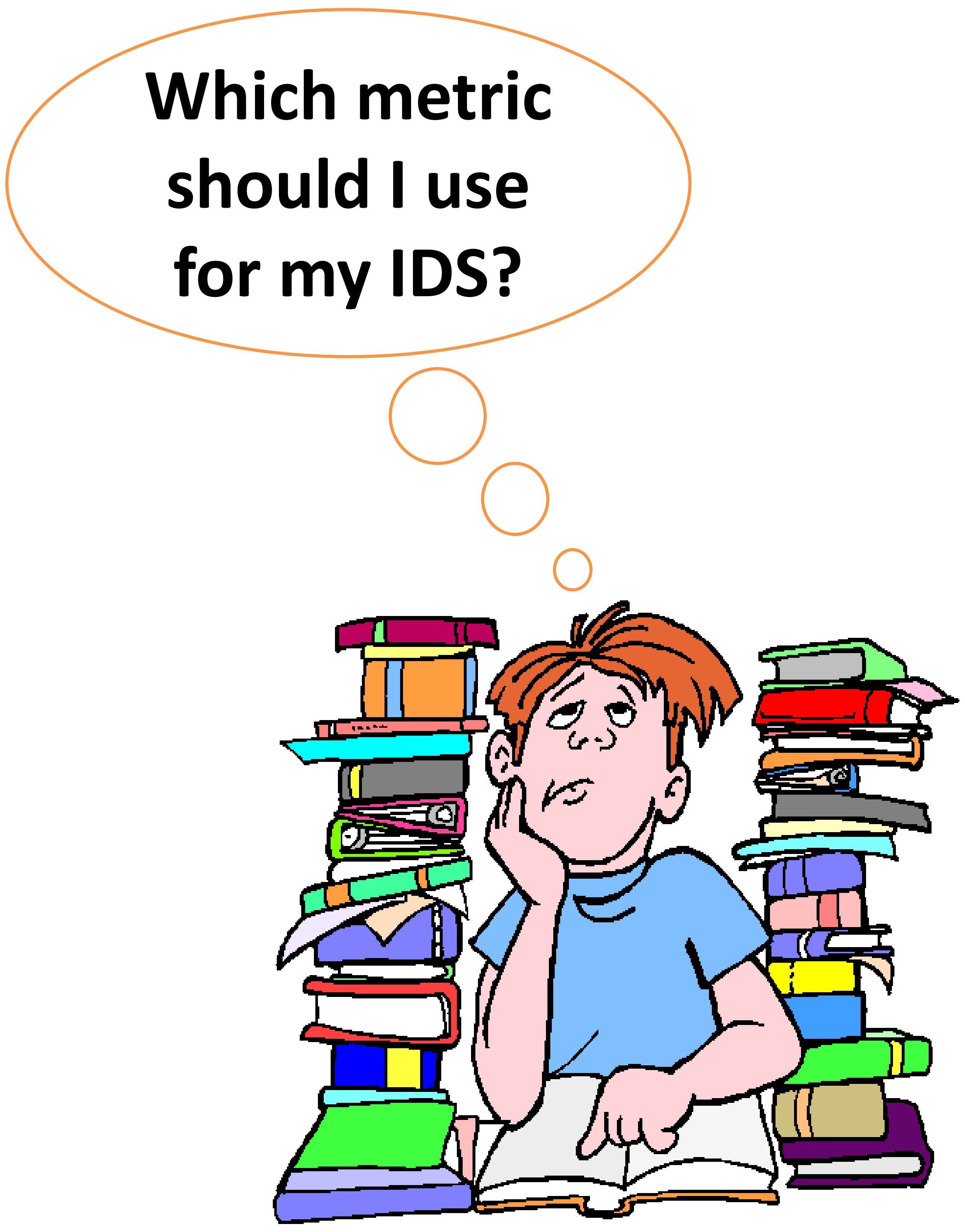

- Taxonomy of IDS metrics
  - Information theoretical
  - Probabilistic
  - Proximity-based
  - Reliability-based

- Simulation study on KDD’99

	Information Theoretical		Probabilistic		Proximity	
	ID3	C4.5	Naïve Bayes	TAN	K-Mean	Y-Mean
Normal	92.79	96.33	98.13	98.56	97.56	89.89
DoS	96.03	97.02	95.74	97.10	97.31	91.17
R2L	2.24	4.58	0.56	3.15	6.43	5.19
U2R	3.07	1.75	3.51	7.02	29.82	10.96
Probe	86.46	80.82	72.25	78.90	87.54	75.25

- Future plan
  - More metrics in each category
  - Combinations
  - Evaluation metrics for IDS

http://hot-sos.org/

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