Final Results- Hackit Dataset

Total Number of Systems=40

Number of Real Systems=10

Number of Honeypot Systems=30

Two simulations each have been performed in both "Subnet" and "Non-Subnet" setting.

Simulation 1- Analysis of Human performance for the last 30% of decisions taken by a user

Simulation 2- Analysis of IBL theory performance where the IBL theory took 30% of the total decisions taken by a user after 70% of the initial decisions of that user were prepopulated in the memory

Performances of each simulation are compared according to the parameters mentioned below.

1. Parameter 1-Average Number of Real Systems exploited by a user
2. Parameter 2-Average Number of Honeypot Systems exploited by a user
3. Parameter 3-Percentage of Real Systems Exploited [(Parameter 1/10)*100]
4. Parameter 4- Percentage of Honeypot Systems Exploited [(Parameter 2/30)*100]
5. Parameter 5- Percentage of Real Systems Exploited out of total systems [(Parameter 1/40)*100]

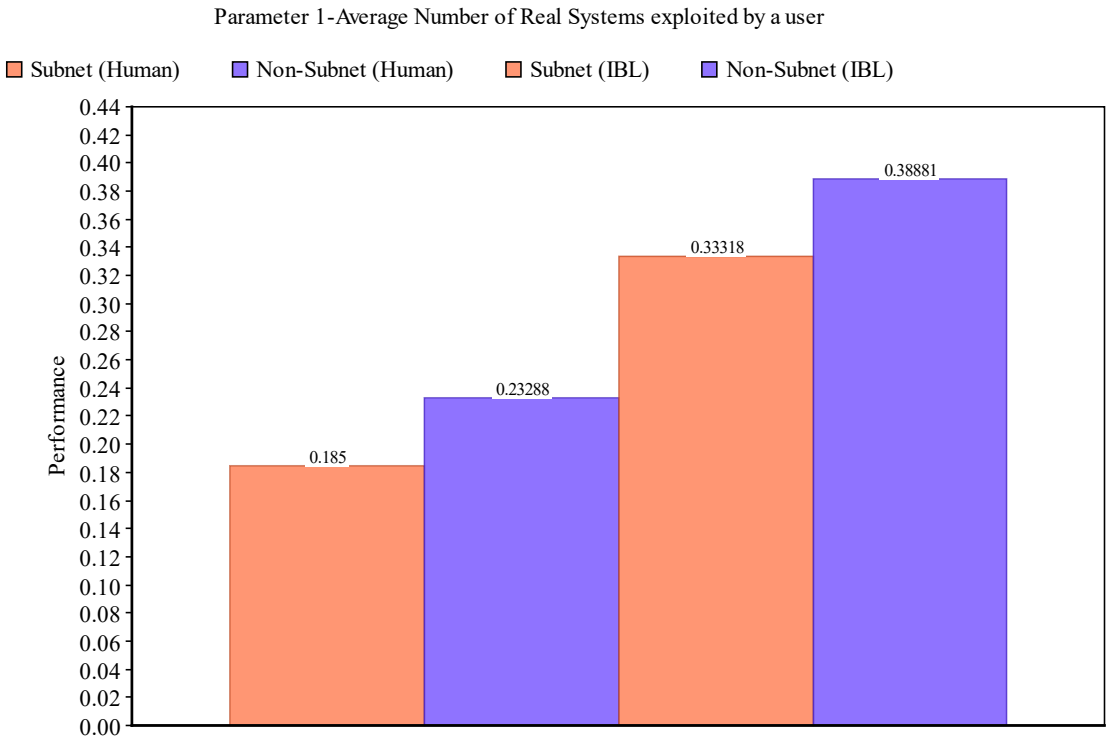
Subnet Setting

	Simulation 1 (Human Performance)	Simulation 2 (IBL Performance)
Parameter 1-Average Number of Real Systems exploited by a user	0.185	0.33318
Parameter 2-Average Number of Honeypot Systems exploited by a user	5.18181	1.75681
Parameter 3-Percentage of Real Systems Exploited [(Parameter 1/10)*100]	1.84999%	3.33181%
Parameter 4- Percentage of Honeypot Systems Exploited [(Parameter 2/30)*100]	17.27272%	5.85606%
Parameter 5- Percentage of Real Systems Exploited out of total systems [(Parameter 1/40)*100]	0.46249%	0.83295%

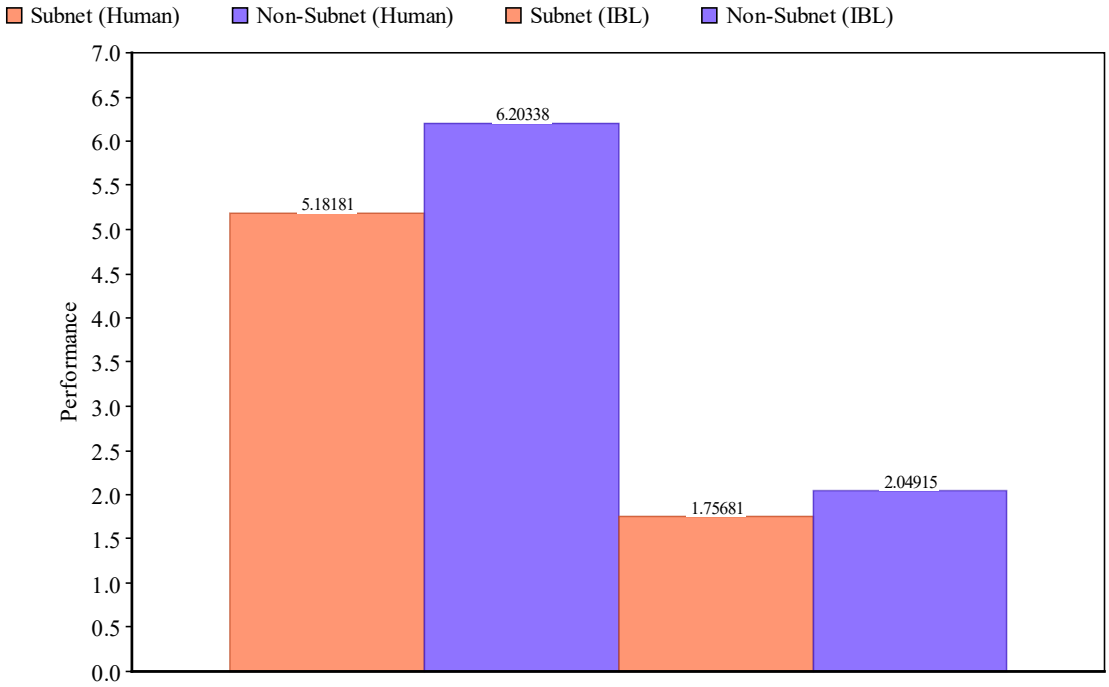
Non-Subnet Setting

	Simulation 1 (Human Performance)	Simulation 2 (IBL Performance)
Parameter 1-Average Number of Real Systems exploited by a user	0.23288	0.38881
Parameter 2-Average Number of Honeypot Systems exploited by a user	6.20338	2.04915
Parameter 3-Percentage of Real Systems Exploited [(Parameter 1/10)*100]	2.32881%	3.88813%
Parameter 4- Percentage of Honeypot Systems Exploited [(Parameter 2/30)*100]	20.67796%	6.83050%
Parameter 5- Percentage of Real Systems Exploited out of total systems [(Parameter 1/40)*100]	0.58220%	0.97203%

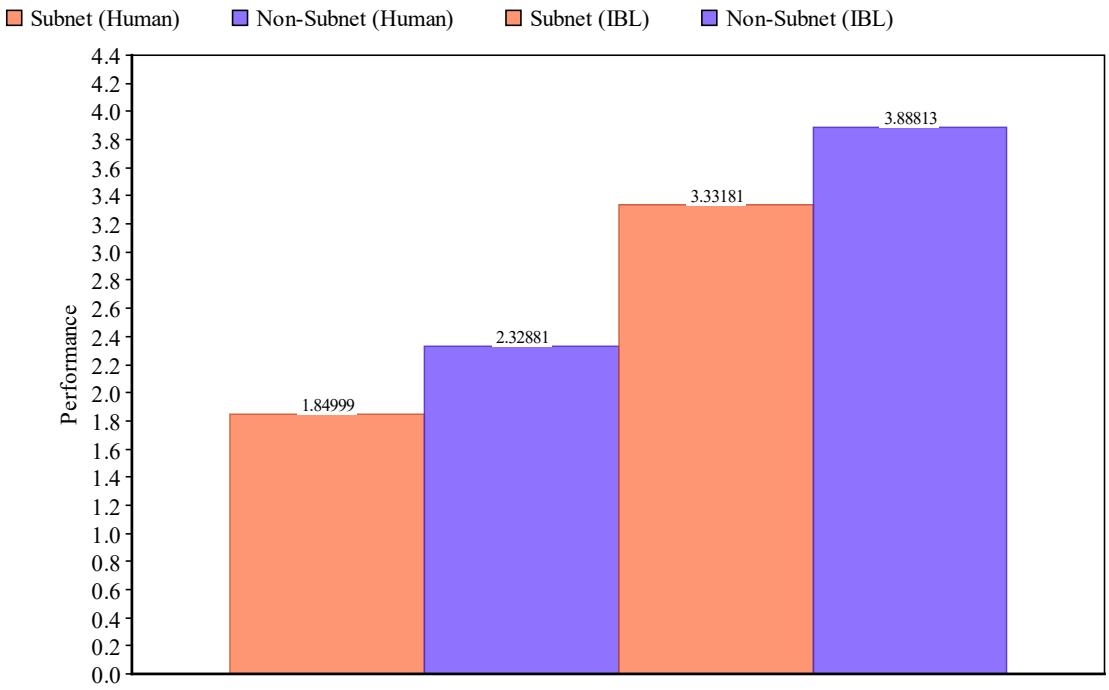
Graphical Analysis of Performance



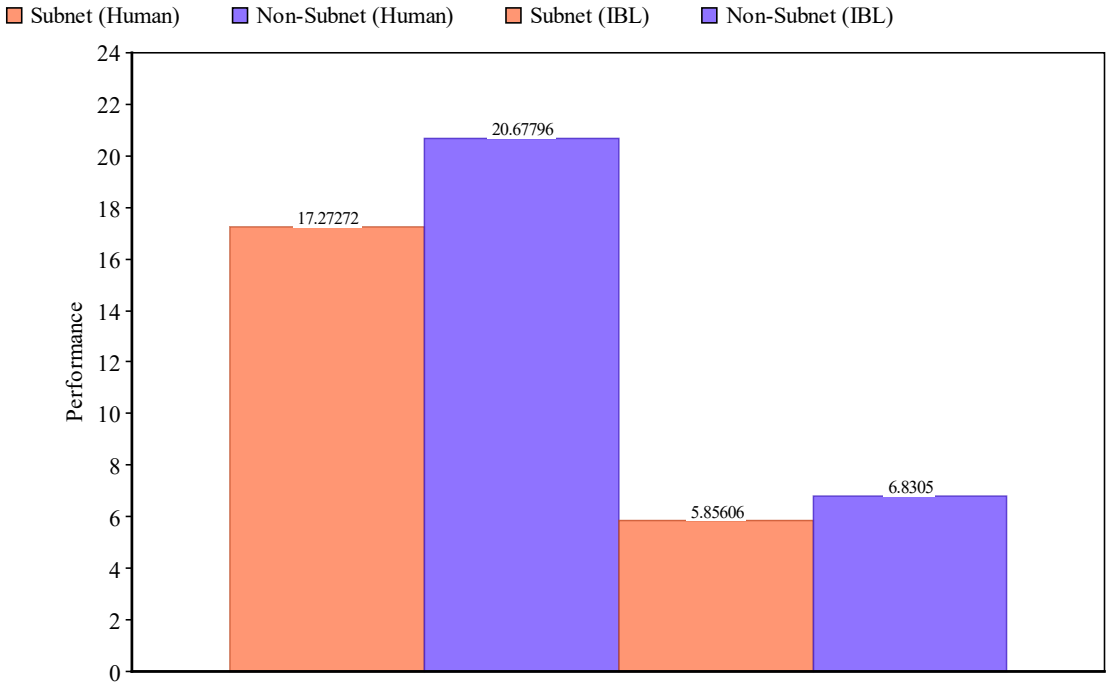
Parameter 2-Average Number of Honeypot Systems exploited by a user



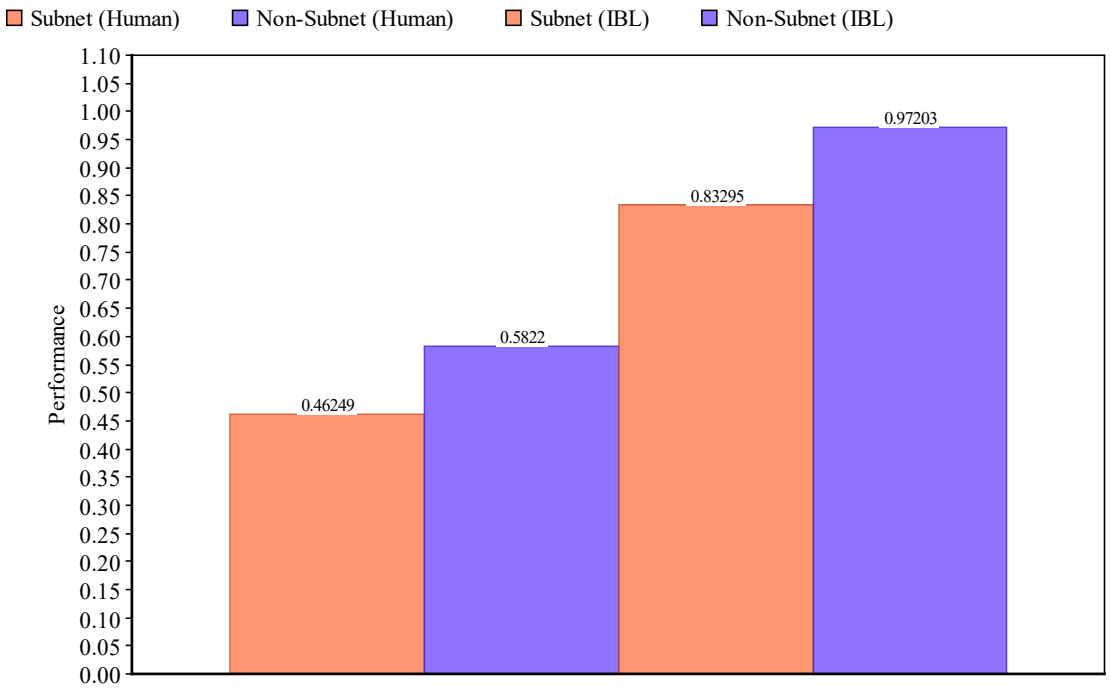
Parameter 3-Percentage of Real Systems Exploited [(Parameter 1/10)*100]



Parameter 4- Percentage of Honeypot Systems Exploited [(Parameter 2/30)*100]



Parameter 5- Percentage of Real Systems Exploited out of total systems [(Parameter 1/40)*100]



Results

1. Performance is increased when the setting is changed from “Subnet” to “Non-Subnet”.
2. IBL theory results in better performance than humans for the final 30% decisions in both “Subnet” and “Non-Subnet” settings.