

Using Games to Defeat Cognitive Biases

- Cognitive biases affect all decision makers and are notoriously difficult to overcome with traditional training
- Serious games complement traditional training and provide
 - Repetition
 - Experiential learning
 - Freedom to fail
- Games/simulations are common in other industries such as military, business, medicine, etc.
- New analysts have grown up playing videogames



Method

- Five IARPA-funded serious games and an instructional video were tested by Johns Hopkins University Applied Physics Laboratory
- The games and video were evaluated for immediate and delayed learning effects
- All training modes showed significant improvement in bias mitigation scores, but the video training effects decline over time
- Game training effects persisted over time!



Cognitive Biases Examined

Phase 1 Biases	• Confirmation Bias	
	• Fundamental Attribution Error	
	• Bias Blind Spot	
Phase 2 Biases	• Anchoring Bias	
	• Representativeness Bias	
	• Projection Bias	

Results

Average Bias Mitigation Test Score and Percent Improvement Relative to Pre-test, by Performer (Student Sample)

