Human-Machine Teaming Lab and Experimentation

Human Cognition and Automation Lab

Working title

- Experiment 1 will be a human subjects research effort that will require IRB approval, participant recruitment, and one-on-one participant experimentation
- Participants will complete a single session, lasting about an hour, in which they will be randomly assigned to the high or low stress condition, and then undergo a manipulation to induce high or low stress.
- After the high or low stress manipulation, participants will then complete a repeated measures task where they have to make a decision whether or not to rely on automation.
- Using the needs of Experiment 1, equip the lab with the basics that make it a functional human-machine teaming lab. The lab will then be used for experimentation, starting with Experiment 1

- Undertake Experiment 1 of a three experiment study assessing how stress affects reliance on automation in human-machine teams.
- Use results of Experiment 1 to inform design of subsequent studies
- A lab that supports research related to human-machine teaming
- Equip lab with materials needed to support a variety of research efforts in line with human-machine teaming

- Explore the effects of stress on the decision to reply on automation with varying reliability.
- Most research on human-machine teaming does not assess the impact stress has on this dynamic. Investigation into the effects of stress on human-machine teaming has practical implications for how a machine or robot teammate will be accepted and utilized in high-stress/high-risk conditions.
- Establish a strong research effort with a dedicated lab in the field of human-machine teaming

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