

Project Phoenix AI Instructor Pilot (IP)

Project Description:

Create an AI instructor pilot to assist in teaching the next generation of Apache attack helicopter pilots. This AI will be implemented into the Mixed Reality Pheonix Simulator already developed by DigiFlight Inc. This AI will be able to give real-time feedback to trainees and advice on how to course correct. The IP will be able to create lesson plans and give in-depth postflight analysis.



Problem:

Apache Attack Helicopters are the Armies most complex aircraft requiring trained pilots to log 140 hours every year to stay proficient. Training to become a pilot requires more time and flight hours. These flight hours always require an experienced pilot to oversee flights, even while operating a flight simulator.

Design Process

Creation of an AI agent utilizing Google Gemini and Watson X which will be taught using flight manuals, doctrine and simulator data. The AI will be implemented into the MOTUS 622i Flight Simulator at Syracuse University. By performing maneuvers in the simulator, we will monitor if the AI can detect errors and respond in a timely manner. The advice the AI gives in times of error will be monitored to see if it matches the flight manual's procedure. The pilot and AI will be able to converse with microphone and speakers in the headset.



End Goal

The creation of this AI Instructor Pilot will be used as the launching point for the next generation of Army pilot training as well as aircraft safety. We aim to work with DigiFlight to create a fully modeled IP capable of monitoring various simple training maneuvers with the IP eventually being used for all 118 training maneuvers ranging from simple motion to complex combat scenarios. We hope that through this model that eventually these IP's will be implemented into all Army Aviation Aircraft to better monitor and fix mistakes made in real-world scenarios.

Semester Deliverables:

- 1. Use X-plane to allow us to model an Apache Attack Helicopter in the MOTUS flight simulator
- 2. Create AI agent to analyze 1-2 maneuvers
- 3. Test AI using flight simulator for maneuvers
- 4. Begin training AI for more maneuvers



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