

Abstract

The U.S. military, DoD, and the U.S. Navy alike are in a race with themselves to be on the better side of AI. AI and its capabilities are growing at ever-faster rates. The U.S. military has been slow to adopt new ways and technologies over the years, but AI has seemed to pique the interest of top officials to get ahead of the endless possibilities that it offers. Specifically, flight training within the Navy. Naval flight training has faced multiple challenges and backups since the COVID-19 pandemic halted training for an extended period, which resulted in many students not receiving the scheduled training that they were expected to go through in a timely manner. With the rapid advancement of AI, the military aviation community is exploring innovative solutions to improve training efficiency and address the backlog and traditional training issues.

Methods

- Conducted library research to gather published information and data on aviation, artificial intelligence, and education
- Conducted a cost-benefit analysis on the yearly and five-year cost of different approaches to conduct the Naval Introductory Flight Evaluation phase of flight school.

Strategy	Description	Yearly Cost	5 Year Cost
Private Contract (current)	Contract Cost of NIFE	\$7.5 Million	\$37.5 Million
Navy Personnel	Cost for USN to conduct NIFE	\$5.2 Mill	\$26.1 Million
AI Implementation	Cost to implement AI into NIFE	\$1.96 Million	\$9.78 Million

Results & Impact

- The United States Navy has spent and will spend millions of dollars every year in the most basic training for future naval aviators. The implementation of artificial intelligence to replace this training can save the navy tens of millions of dollars.
- The impact on performance from the implementation artificial intelligence will need to be studied over multiple years and classes.
- Teaching with artificial intelligent tools allows students to learn at their own pace and significantly reduce training time in the training pipelines.

Future Research

- Take a group of students that are similar demographically and push them through an entire curriculum of NIFE with artificial intelligence, instead of the traditional classroom teaching.
- Have the students take the same tests as traditional NIFE students and compare their grades.
- Develop a curriculum of a hybrid structure that incorporates artificial intelligence to alleviate the pressure on traditional flight instructors and to move students through the pipeline more efficiently.



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