2 Degree of Freedom Helicopter System
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Abstract
- **Objective**: Learn how to use control system in a laboratory environment.
- **Cost efficient** and **accessible** to any engineer.
- **Simulates** a helicopter control system.
- Needs to give **accurate data** and **feedback** to show the **motion** of the system.

Methods and Material

**Construction of System:**
- PVC Pipe
- Aluminum Box
- 3D Filament
- Acrylic Sheet
- Motors
- Encoders
- Raspberry Pi
- Motor Driver

Results
A CAD model was used to build the system’s design. The data inputted and received was through Matlab/Simulink interface with the Raspberry Pi 4.

Discussion
- Will be used by **students** and **faculty members**.
- Can **recreate** this system and **modify** it to their use based on the **instructions** given.
- Will be more **cost effective** than existing systems.

Conclusions
- There are **existing systems** available in the **market** like this.
- These systems can be very **expensive**, difficult to **maintain**, and hard to **modify**.
- Our system is **cost efficient**, **easily maintained**, and **easily modified**.

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