### 2101.08047—Collision-Free Flocking with a Dynamic Squad of Fixed-Wing UAVs Using Deep Reinforcement Learning

##### 强化学习应用到飞机上的现有成果：固定翼无人机动态编队的无碰撞群集控制

* + A decentralized DRL-based framework is designed to address the collision-free flocking control problem for a dynamic squad of fixed-wing UAVs.
  + A novel DRL algorithm is proposed for training the flocking controller, where a plug-n-play embedding module based on convolutional neural networks and the attention mechanism is designed to handle variable length system state.
  + The proposed method can be directly transferred from numerical simulation to semi-physical simulation without any parameter finetuning.

### Application Of Reinforcement Learning In Heading Control Of A Fixed Wing UAV Using X-Plane Platform

##### 强化学习应用到飞机上的现有成果：用RL控制xplane飞机的偏航角

* + The autopilot heading controller will be designed in Matlab/Simulink for controlling a UAV in X-Plane test platform. Through this platform, the performance of the controller is shown using real time simulations. The performance of this controller is compared to that of a PID controller. The results show that the proposed method performs better than a well tuned PID controller.  
    The lateral design will be used in design of the controller. The proposed controller will act on the deflection angles of the two lateral control surfaces i.e. the aileron and rudder.

### Automated Enemy Avoidance of Unmanned Aerial Vehicles Based on Reinforcement Learning

##### 强化学习应用到飞机上的现有成果：无人机避敌

* + This paper focuses on avoiding the collision with moving enemies UAV, based on a temporal-difference reinforcement learning method called Sarsa. To handle the enemy avoidance problem in continuous state space, the Cerebellar Model Arithmetic Computer (CMAC) function approximation technique is embodied in the proposed framework.

### High-Dimensional Reinforcement Learning with Human Feedback

主要是讲机器人和机械臂的，没提及飞机或飞行器。

### UAV Control Based on Dual LQR and Fuzzy-PID Controller

这篇是我在google上找到的：<https://alkej.uobaghdad.edu.iq/index.php/alkej/article/view/710/643>

##### 针对飞机平稳飞行的研究成果：适用于Cessna 172的纵向控制器

* + This paper presents the design of a longitudinal controller for an autonomous unmanned aerial vehicle (UAV). This paper proposed the dual loop (inner-outer loop) control based on the intelligent algorithm. The inner feedback loop controller is a Linear Quadratic Regulator (LQR) to provide robust (adaptive) stability. In contrast, the outer loop controller is based on Fuzzy-PID (Proportional, Integral, and Derivative) algorithm to provide reference signal tracking. The proposed dual controller is to control the position (altitude) and velocity (airspeed) of an aircraft. An adaptive Unscented Kalman Filter (AUKF) is employed to track the reference signal and is decreased the Gaussian noise. The mathematical model of aircraft has been (Cessna 172) presented. The stability and robustness of the system have been verified in a simulation experiment.