Mingkang Yuan, B. E, M. E

Signal and Information Processing,
University of Chinese Academy of Sciences,
19 Yuquan Road, **Telephone: 18810996157**
Beijing, China Postcode:100049 **E-mail: ymk201727@gmail.com**
Website:https://yuan-mingkang.github.io

Academic Curriculum Vitae

Personal

Full Name: Mingkang Yuan
Gender: male
Born: Nov 15, 1997 (Henan, China)
Citizenship: Chinese
Language: Chinese (fluent); English (IELTS 6.0, preparing for a higher IELTS score)

Education

2023 M. E, Signal and Information Processing, University of Chinese Academy of Sciences
2020 B. E, Flight Vehicle Propulsion Engineering, Northwestern Polytechnical University

Work Experience

2023 **Flight Control Engineer**

Here I am mainly responsible for the development of the flight control software architecture, including the middle layer for estimating and controlling the UAV flight system, the flight control stack and runtime environment that provides internal and external communication and hardware integration. Also, I am currently working on drone clustering algorithms and reinforcement learning related knowledge.

Research Experience

Master's Degree Programmes

2022 **Research on Nematode Image Segmentation**

In view of the problem that the instance segmentation accuracy of nematode images still needs to be improved, an instance segmentation model that adds a central skeleton head network is proposed to strengthen the model.

In this project, I am mainly responsible for extracting the central skeleton information of the nematode image, and adding the central skeleton head network based on the Mask RCNN network.

2021 **Research on Image Federated Learning Method Based on Distributed GAN Network**

Aiming at the problems of low data security and easy leakage of privacy in the process of multi-center image intelligent analysis, a distributed GAN network-based. The image federated learning framework realizes federated learning of multi-center remote sensing images without transmitting original data and model information, and integrates the GAN network.

In this project, I am mainly responsible for building and improving distributed GAN networks, building distributed GAN platforms, training central generators and distributed discriminators, based on synthesis images training segmentation model.

Bachelor's Degree Programmes

2020 **Research on modeling method of a certain type of aero-engine**

In this project, mathematical model of an aero engin are established through SIMULINK and C++, and the errors between the two are compared respectively to obtain a better mathematical model and improve the modeling accuracy of the engine model.

2019 **High-altitude glass curtain wall cleaning robot**

In order to solve the problem of cleaning glass at high altitude, we designed and manufactured a machine that can clean the glass curtain walls of high-rise buildings. I am mainly responsible for the design and development of the whole machine, including the robot model structure and adsorption function, assembly and debugging, control system and so on.

Publication

Mingkang Yuan, Ye Li, and Jiaxi Sun. Distributed Learning based on Asynchronized Discriminator GAN for remote sensing image segmentation. ICCIP'22: Proceedings of the 8th International Conference on Communication and Information Processing, Pages 33-40, https://doi.org/10.1145/3571662.3571668.

Research Interests

Robotics
Automatic Control System
Computer Vision
Reinforcement Learning

Awards

2022 Merit Student
Outstanding Student Cadre
2019 The First Prize Scholarship
National Encouragement scholarship
2018 The Second Prize College Scholarship
2017 The First Prize Scholarship
National Encouragement scholarship

Hobbies

Riding, Badminton, Travelling.