发件人: Runze Yuan
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发件人: Arthur Richards <Arthur.Richards@bristol.ac.uk>
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收件人: Runze Yuan <r.yuan.2022@bristol.ac.uk>
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http://www.allaboutais.com/jdownloads/Access%20schemes%20technical%20downloads/ais_tdma_access_schemes.pdf

https://en.wikipedia.org/wiki/Self-organized_time-division_multiple_access

http://docs.ros.org/en/humble/index.html

-----Original Appointment-----
From: Runze Yuan <r.yuan.2022@bristol.ac.uk>
Sent: 07 February 2023 12:59
To: Arthur Richards
Subject: Dissertation Self Assessment (Self-organised Resource Sharing)
When: 09 February 2023 15:00-16:00 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.
Where: Queen's Building 0.54A Arthur's Office

Hello!

My name: Runze Yuan

My Project: Self-organised Resource Sharing

Why you expressed an interest in that project:
I think the field of AI combined with robot control is promising, and I want to build up some experience in both AI and robot controlling.

What you would most like to achieve when you do it:
1. Better understanding of AI and build up the skill of crafting AI models. But maybe it's off the topic, I think this project aims for something more of swarm robotics and may not use the popular multi-layer model AI.
2. Fundamental skills of robot controlling and programing, like ROS.

What is your favourite robotics subject:
Intelligent system design. I love solving problems and implementing the solutions.

What you would least like to do in your project:
Circuit designing. I am not familiar with this area and would like to gain some relevant experience, but it may be too much for one project. It's not that I really don't want to do it, I just don't want to run out of time.

What you think you're best at, academically:
Analysis and summarization.
Coding. Could easily enter flow state when coding, no matter what I'm coding for.

If this question is about subjects: I'm not very good at analogue circuits and circuit design, everything else is pretty much the same for me.

What you think are your biggest weakness is, relevant to this project:

Hardware Designing. Have little CAD or PCB designing experience.

Your experience of Python, MATLAB, Simulink, control, practical electronics, drone flight, Kalman filtering, ROS, MAVLINK

Python: Skilled.

MATLAB, Simulink: Learnt for advanced control course. Slightly lesser than intermediate.

Control: Had courses of advanced control and automatic control as undergraduate.

Practical electronics: Had courses of analog electronics and digital electronics as undergraduate. Confused about analog electronics but understands digital electronics quite well. Don't have much experience on circuit design.

Drone flight: Understands fundamental concepts like state-machine, flight control, optical flow, roll-pitch-yaw, etc. But never did anything practical.

Kalman filtering, ROS: Heard about the names but never learnt.

MAVLINK: Never heard before.

Other information: My major as an undergraduate is Robotic Engineering, I found it's quite the same with MSc Robotics, but it didn't go as deep as MSc, and we had little practical sessions. My dissertation as undergraduate is about machine vision, I built a stereo vision algorithm with C++ and CUDA from scratches, then optimized it significantly.

Thank you,

Runze