Problem statement

The present propulsion system on the solar boat can realize the function of propelling boat and controlling direction. But narrow and long blades on the propeller can cause high friction when the propeller is rotating and contacting with water. And because of the small contact area between blades and water, thrust output from propeller cannot be transformed into high propulsion speed of the boat. What is more, some components of propulsion system have heavy weights which increases the burden of prolusion system and effects the energy conversation efficiency (rotational kinetic energy input from motor and output as thrust from propeller).

Basing on the above problem analyzation, there are three main research direction can be followed:

1. Change the size of the propeller to reduce energy consumption caused by friction.
2. Change the shape of blades to produce high thrust and increase the propulsion speed.
3. Check every component of propulsion system and reduce weights of propulsion system to improve energy conversation efficiency.