

<u>What do you like to do?</u>	<u>What causes are you passionate about?</u>	<u>What frustrates you?</u>
Skateboarding	Alternative energy	Political division
CTF	Global warming	US military spending
Coding	Space exploration	DEA drug scheduling
Making music	Psychedelic therapy	College tuition
Drawing	National park service	Billionaires

Choose your favorite item from each column, connect those items to a grand challenge, and suggest possible problems that you would be interested in working on for the final project (see example).

1. CTF - **Secure Cyberspace**

- a. Better approaches are needed to authenticate hardware, software, and data in computer systems and to verify user identities
 - i. Biometric technologies (ex. fingerprint readers) could be a possible step in that direction

2. Alternative energy - **Provide Energy from Fusion**

- a. The increasing danger of climate change calls for drastic changes in our energy production
 - i. The oceans contain trillions of metric tons of lithium, enough to power fusion energy generators for millions of years
 - ii. Currently, the most advanced approach to controlling a fusion reaction is to use magnetic forces to hold fusion elements together

3. DEA drug scheduling - **Engineer Better Medicines**

- a. Current drugs are often prescribed incorrectly or unnecessarily, promoting the development of resistance without real medical benefit
 - i. More effective tools and techniques need to be developed for rapid analysis and diagnosis so that a variety of drugs can be quickly screened and proper treatments can be applied