Matthew Fernandez

The topic discussed that most inspired me was autonomous ships and boats. I am heavily engaged with these areas already and promoting intelligence and autonomy within electronics and robotics is one of my great passions. Promoting vessels that do not require human piloting is obviously a huge key to unlocking cheaper and more efficient transportation to both goods but also naval vessels. This decreases risk of losing human lives in times of trouble, while still maintaining the defense and transportation that is expected in the responsibilities of the navy. This topic inspires me because its ground-changing effects on ocean exploration as a whole. It creates a safer way for humans to travel the dangerous seas, while making it more economically efficient. This would save the Navy and Marine Corps a lot of money and manpower. It would also help to decrease human error, and also open the path for this technology to expand and improve other areas in other ways.

The engineer who inspired me the most in the video was Aamir Qaiyumi discussing autonomous vehicles in the application of unmanned systems. He inspired me by revealing the scope within which these technologies could advance not only the Navy, but other domains as well. This is just one application that would make the Navy's life significantly easier. However, there are alternative applications that provide a bright future to Navy exploration. One example would be the application of autonomous robotics with underwater exploration including devices such as AUVs and ROVs. I hope to one day develop these on an industrial level and potentially work together with the navy to develop these underwater robotics that can autonomously explore areas humans cannot currently touch. I compete annually in an underwater robotics competition sponsored by the Marine Advanced Technology Education (MATE) organization, where we must build robots to remediate some of the oceans most pressing concerns. We compete on an international level, this year placing 3rd in the world for the best underwater robot. This year one of the competitions components was creating an autonomous driving component. We are also getting published in the Journal of Ocean Technology. I hope to use this knowledge and experience to expand this into a career with the Navy in developing these underwater vehicles, and exploring the autonomous features to make it even more practical.

Technology is inevitably expanding daily, and it has been incredible to observe just within my short lifespan thus far. I already have been around for the emergence of partially autonomous cars through Tesla, and see the robotics industry quickly blowing up. Manufacturing processes such as 3D Printing have also been growing at an insane rate, where having a 3D printer as a household item is becoming typical. I can only imagine in 20 years from now in 2040, that the majority of vehicles on the road will have been transitioned to autonomous because of the overall safer environment they create. Manufacturing will be in the capacity of any household through 3D printers. Most importantly, autonomous ships for both transport and Navy needs will have grown significantly. I would think that ships for transport will be entirely autonomous, saving a lot of money and manpower. I hope I can contribute to the Navy side of things with the underwater autonomous robots to conduct tasks impossible before, which I believe would add a new dimension to naval capabilities as the autonomous technology grows.