

MAE 275 UAS – Homework#1

On The Current State of UAS

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In recent years, there has been a major advent in the development of Unmanned Aerial System (UAS) technology, especially in the civilian and commercial sector. Advancements in wireless communication, on-board computing, imaging systems, and power storage have all come together recently to make functional, affordable UAS a reality. Facing this influx of a new, world-changing technology, there are a few questions that need to be answered.

What is most exciting about the future of UAS?

UAS are exciting because they hold the potential to not only fill roles that are traditionally held by large, expensive aircraft but also create their own new niches in society. Automation of flight has the immediately obvious benefit of improved safety to the human that would otherwise have been required to pilot the aerial vehicle in question. This is especially important for tasks that require particularly dangerous flight operations. One example is manual inspection of tall structures such as bridges, radio towers, dams, etc. Typically, these jobs require a human to be tethered to a structure or helicopter and hang hundreds of feet in the air. This obvious hazard can be eliminated by using UAS equipped with appropriate imaging technology. The removal of a job hazard, aside from being enough motivation for implicating this technology on its own, could also have the effect of improving the safety of the structure being inspected. If the inspection task was suddenly made safer, and thus less expensive, it could be performed more often or more thoroughly than previously, ensuring better confidence after an inspection. UAS also has the potential to improve the safety of police officers and soldiers in the line of duty. It is the nature of these occupations to deal with the unknown, which can prove deadly when the wrong decision is made. A surveillance UAS provides the ability to learn more about the unknown environment without endangering a human life. Thus, police officers and soldiers would be able to make more informed decisions when in a dangerous or hostile environment.

What is most disturbing about the future of UAS?

they're cool

What are some of the main hurdles in future of UAS?

they're cool

How can UAS be made to be beneficial to humankind?

they're cool