Week 15

This week, we had a session with the assistant library manager, Ms. Laura Barber, and Ms. Siobhan Mcniff from the Center of Academic Success on different topics that will help us with academic writing. Ms. Laura Barber gave an insightful session on referencing and citing correctly using the Harvard Referencing Architecture. We had a fun Kahoot! A game that made me realise that my knowledge of referencing and citations was limited.

She gave us an enlightening session on how to reference well and suggested research management tools we could use to manage our references well. She outlined Mendeley, RefWorks, and Zotero as the tools we had access to via our school emails. Afterwards, she gave a short session on installing and using the Mendeley software in our research. To end her session, she answered students' questions on referencing and reminded us to use citethemrightonline.com to make our references accurate.

After Ms. Laura left, Mrs. Siobhan came in and started her session on Literature Reviews. She explained the Literature Review as a medium to show our readers that we fully understand the published work surrounding the topic we are talking about. Moving on, she introduced some tools we could use to write good Literature Reviews. Some of these tools were researching keywords on our project, creating a synthesis table, and using Point Evidence and Explanation (PEE) paragraphs in our Literature reviews.

Here is a draft of the key themes and words I plan on using for my Literature review:

### Key Themes

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| Key Themes |
| Technology Types and Features (Identify and compare different types of AI and robotics technologies used in waste sorting.) |
| Effectiveness in Sorting Hazardous Waste (Assess the effectiveness of AI and robotics in sorting hazardous waste, specifically plastic and cans.) |
| Environmental Impact (Examine literature on the environmental impact of AI and robotics technologies in waste management.) |
| Economic Considerations (Investigate economic aspects associated with implementing AI and robotics in waste sorting, including cost-effectiveness and return on investment.) |
| Social Acceptance and Stakeholder Engagement (Explore literature on social acceptance of AI and robotics in waste management.) |
| Safety and Regulatory Compliance (Examine safety considerations associated with using AI and robotics in handling hazardous waste) |
| Challenges and Limitations (Identify common challenges and limitations reported in the literature regarding the application of AI and robotics in hazardous waste sorting.) |

### Key Words

* Recycling automation
* Waste sorting automation
* AI in recycling
* Automated waste management
* Smart waste processing
* Machine learning in waste management
* Computer vision for recycling
* Robotics in waste sorting
* Sensor-based waste sorting
* Automated sorting systems
* Plastic recycling automation
* Can sorting automation
* Paper recycling AI
* Glass waste sorting using AI
* Electronic waste recycling automation

We ended the session with Mr. Roshan instructing us to start our literature review using the points from the two sessions we had.

# Reflection

This week, I started working on my literature review and explored concepts on recycling, Circular Economies, and the recycling industry. I explored waste classifier models online and used an ESP32 WIFI + Camera module to take pictures of different waste classes. So far, the online models I have found are less accurate than I want them to be. I will start researching how to do transfer learning on the YOLO v5 model. I hope to get a better result using this approach.