Summer 2024 Research Timeline

**Sub Research 1: Development of Autonomous Robotic Car**

Week1: May 20 – May 26

* Define requirements and functionalities of the autonomous robot car.
* Research existing robotic algorithms, computer vision techniques, and deep learning models suitable for navigation, obstacle detection, and trash identification.

Week 2: May 27 - June 2

* Design the hardware part of the robotic car.
* Explore necessary electrical and mechanical components.

Week 3: June 3 - June 9

* Begin assembling the Robotic Car.

Week 4: June 10 - June 16

* Procced with assembling the Robotic Car.

Week 5: June 17 - June 23

* Test and enhance basic functionalities of parts.
* Procced with assembling the Robotic Car.

Week 6: June 24 - June 30

* Incorporate Control Units and Microprocessors with the hardware system.
* Develop and test basic movement algorithms (forward, backward, left, right).

Week 7: July 1 - July 7

* Finalize Assembling the Robotic Car

Week 8: July 8 - July 14

* Develop Robotic Algorithms and Computer vision techniques for autonomous navigation.

Week 9: July 15 - July 21

* Advance the development of robotic algorithms and CV techniques.
* Conduct tests on these algorithms and techniques.

Week 10: July 22 - July 28

* Develop deep learning models for trash identification and movement towards the trash object.

Week 11: July 29 - August 4.

* Advance the development of deep learning models.
* Test the deep learning models.

Week 12: August 5 - August 11

* Integrate the deep learning models with the Robotic algorithms and computer vision techniques.
* Begin testing the integrated systems.

Week 13: August 12 - August 18

* Finalize the integration of the deep learning, computer vision and robotic algorithm systems.
* Finalize test of the integrated systems

Week 14: August 19 - August 25

* Test the Robotic Car.
* Address identified issues.

Week 15: August 26 - September 1

* Finalize testing the Robotic Car.
* Finalize Sub research 1.