CS491 – Autonomous Vehicle Design

Engineering Notes No. 8.1

INFORMATION

NAME: Davian Rosario-Ortiz

DATE: 01/21/25 - 01/27/25

Sprint: 8

JIRA BACKLOG

Responsible for:

- N/A

Contributed to:

- Reviewing and refining mission planning and control validation strategies.
- Capturing and documenting videos of PolyVerif test cases for future analysis.
- Draft email to Dr. Akbas regarding UAS department collaboration.

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RESOURCES & DOCUMENTS CONTRIBUTED TO

Table 1 - Contributions

Date	Resource/Document	Location	Contribution Description
01/23/2025	PolyVerif Test Scripts	One Drive	Developed initial test scripts for PolyVerif

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COMPONENTS TESTED

Table 2 - Testing

Date Tested	Component	Result	Comments
01/21/2025	PolyVerif	Running	Evaluating the impact of changes in car movement
01/23/2025	3D Map format	Confirmed	Ensured .fbx format compliance

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PROBLEMS SOLVED

Table 3 - Solutions

Date	Problem	Solution & Notes
01/21/2025	PolyVerif test case gaps	Identified potential scenarios for testing
01/23/2025	3D map texture issues	Confirmed UAS department may have a usable scan

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PROBLEMS TO ADDRESS NEXT

Table 4 – Future Problems

Problem	Description
PolyVerif AI Adaptation	Investigate methods for dynamically adjusting behavior
UAS 3D Map Integration	Confirm map scan availability and compatibility
AI Training Strategy	Establish objectives and data requirements

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MEETING NARRATIVE NOTES:

Table 5 – Meeting 1

01/21/2025	Meeting Type: In-Class (LB 374)
Met with Product Owner(s): Y	
Problems Brought Up:	

Problem	Proposed Solution
Training questions for Neuroevolution	Defined scope and data needs
PolyVerif simulation improvements	Evaluating changes in motion planning

Other Items Updated on:
Training data requirements established
Additional Notes:
None

Table 6 – Meeting 2

01/23/2025	Meeting Type: In-Class (MP 224)
Met with Product Owner(s): N	
Problems Brought Up:	

Problem	Proposed Solution
Need 3D map scan from UAS dept.	Contact UAS to confirm availability.
AI objectives for training	Drafted list for discussion

Other Items Updated on:
Attempt to lock project requirements with Dr. Akbas
Additional Notes:
None

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NOTES:

- Confirm map scan availability with UAS department
- Ensure PolyVerif test cases are well documented
- Establish AI training objectives and refine point system approach