HAMM-LIPPSTADT
UNIVERSITY OF APPLIED SCIENCES

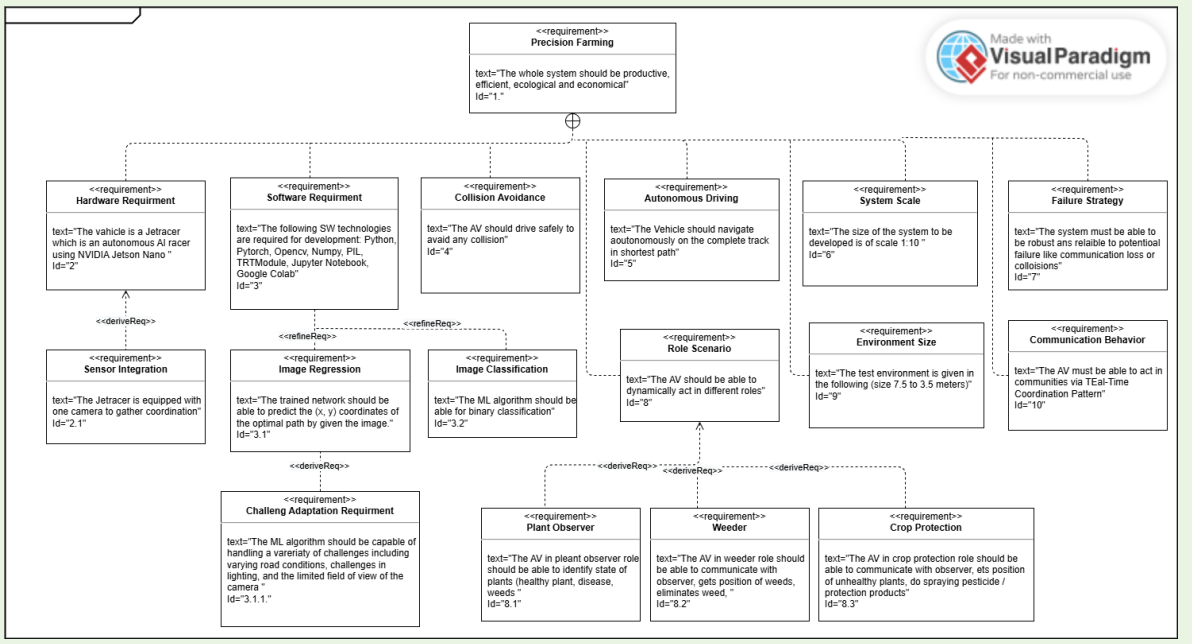
Summer School
Embedded Systems
Engineering

The Autonomous Future of Agriculture

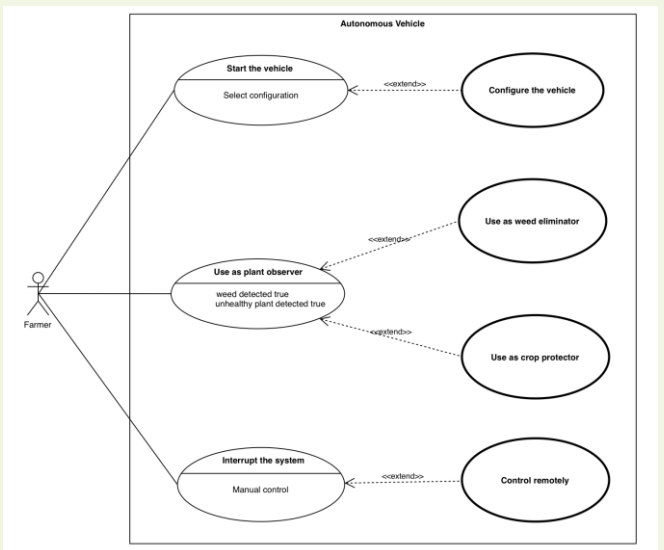
Roghieh Farajialamooti
Ghazaleh Hadian
Tural Hasanov
Gökcer Sönmezocak

CONSENSE

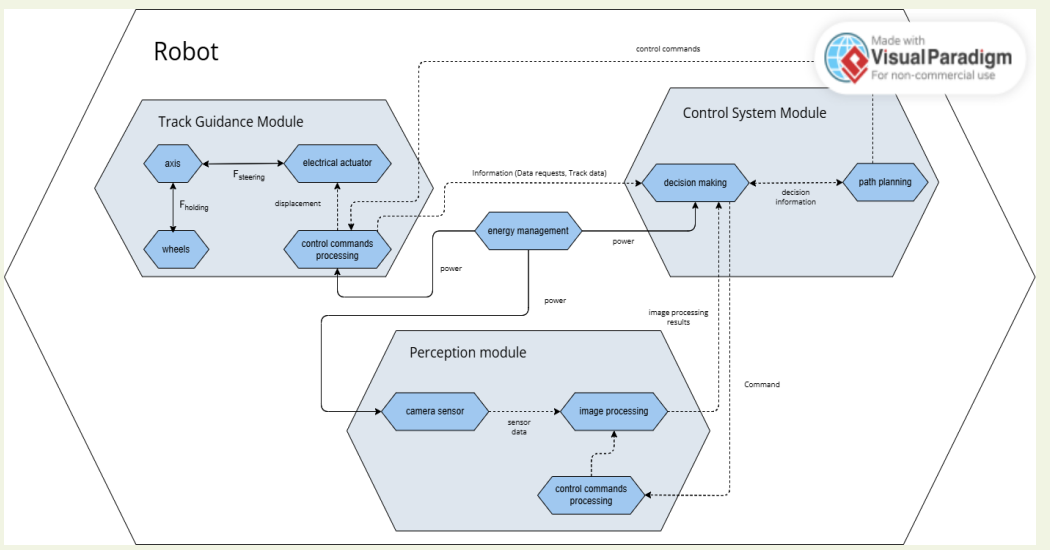
Requirements



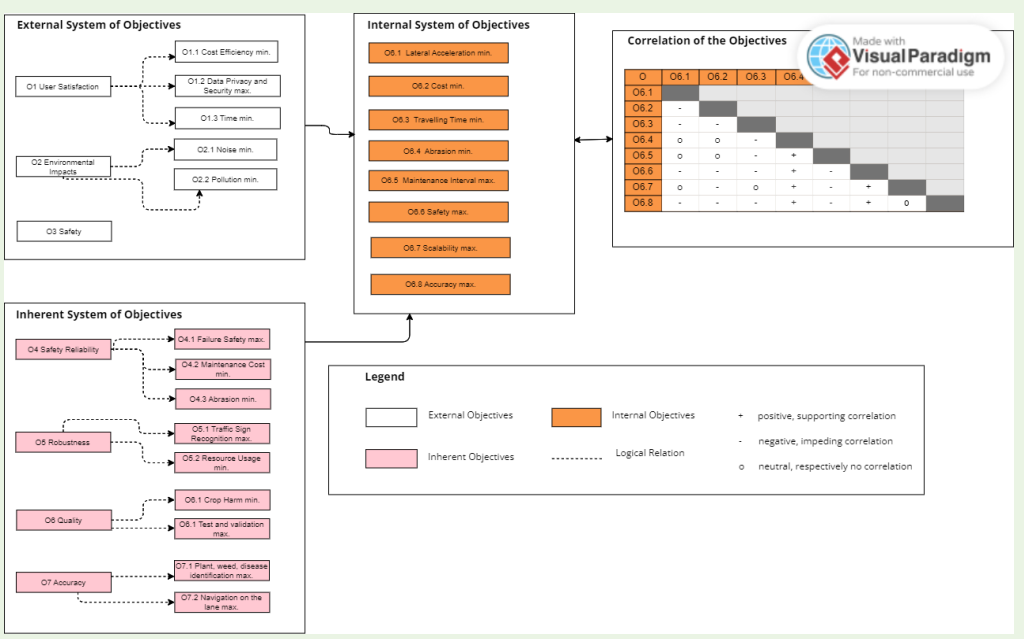
Application Scenario



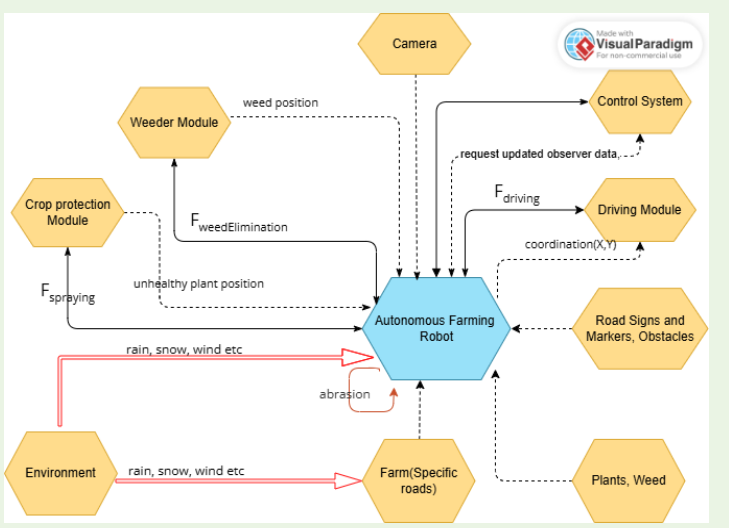
Active Structure



System of Objectives



Environment



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Preprocessing

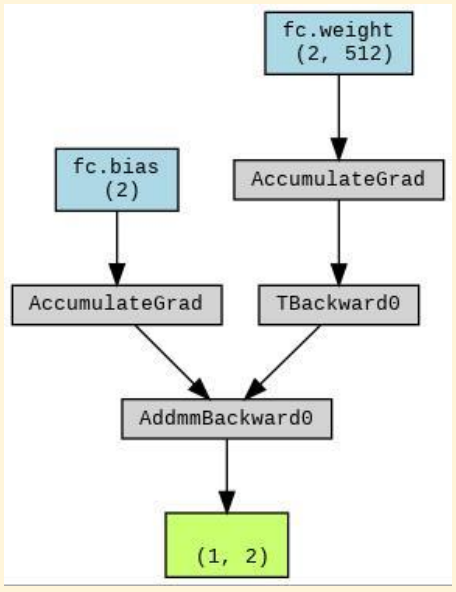
Data Augmentation:
- Color Jittering
- Resize
- Convert to Tensor
- Reverse Channel
- Normalize

Extract X and Y

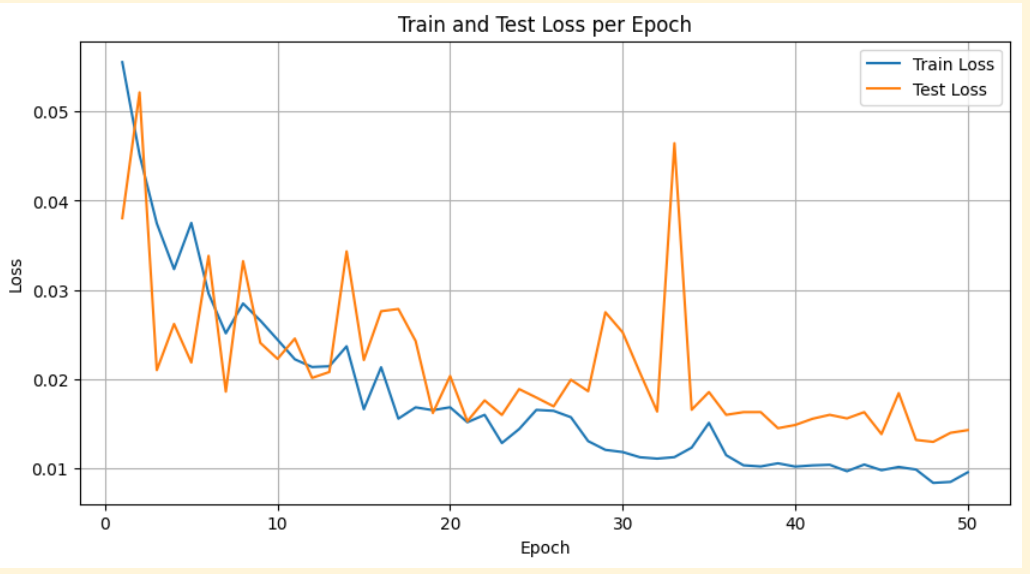
Data:
2000 Images
Size 224 x 224

Cognitive

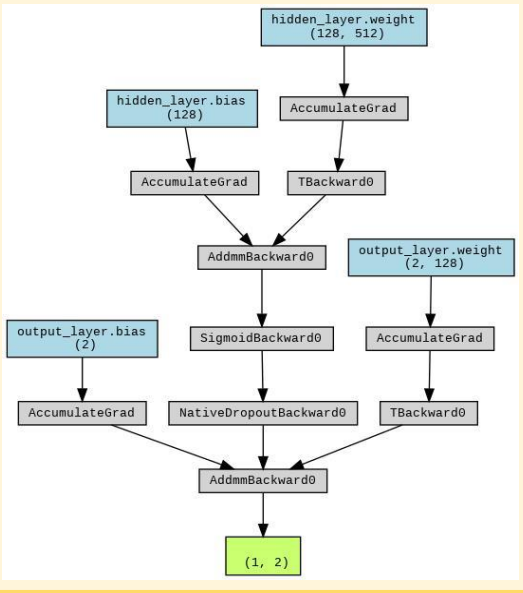
Road Following Model



Performance

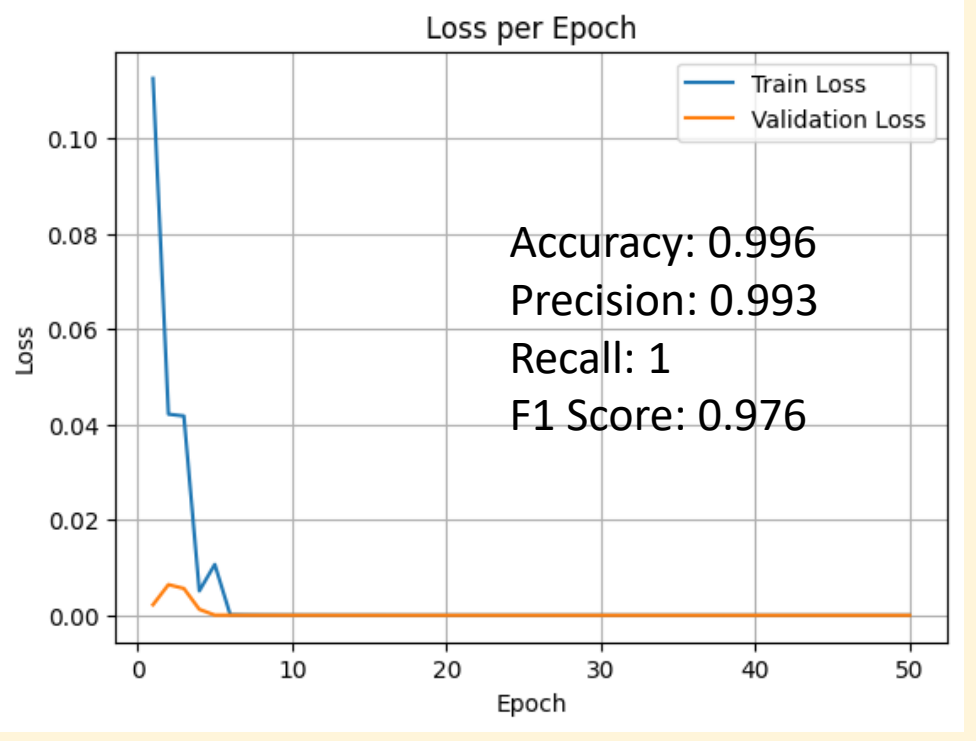


Traffic Sign Detection



Model: resnet18
Predicted Class:
Priority

Performance



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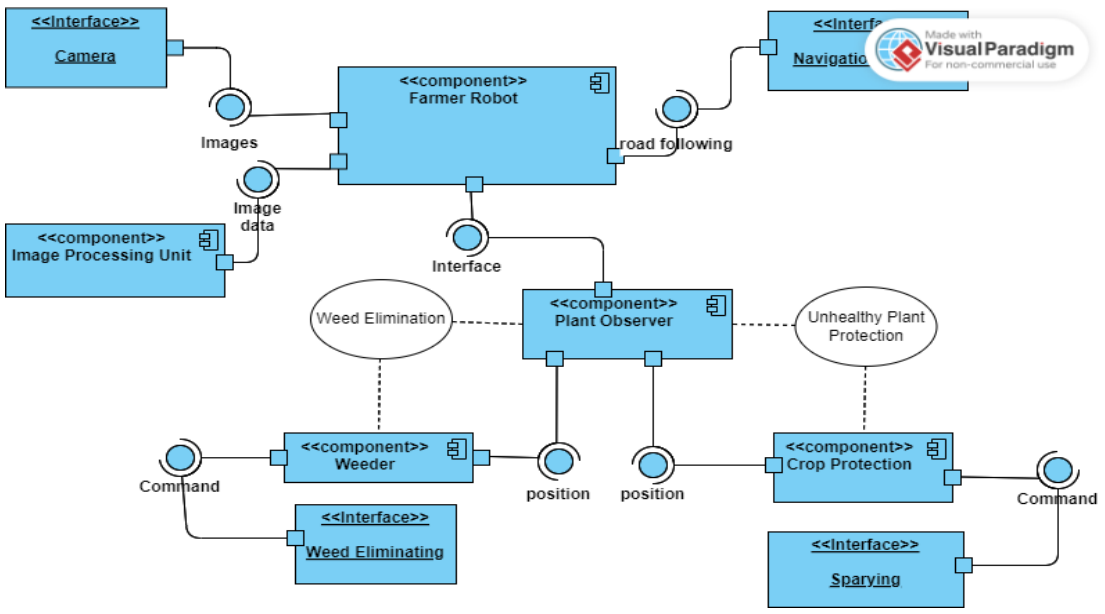
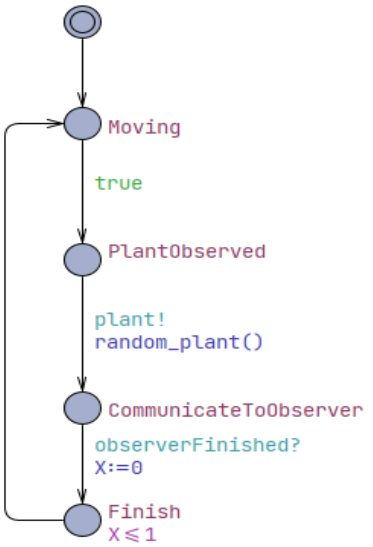
MechatronicUML

Compononet

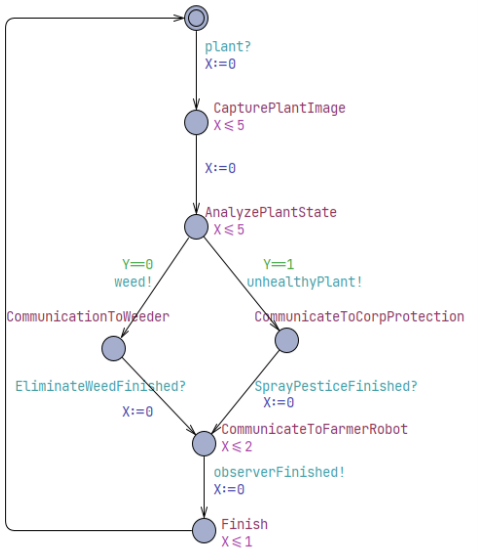


UPPAAL

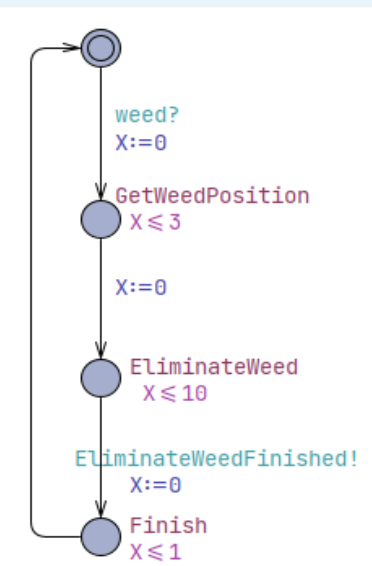
Farmer Robot



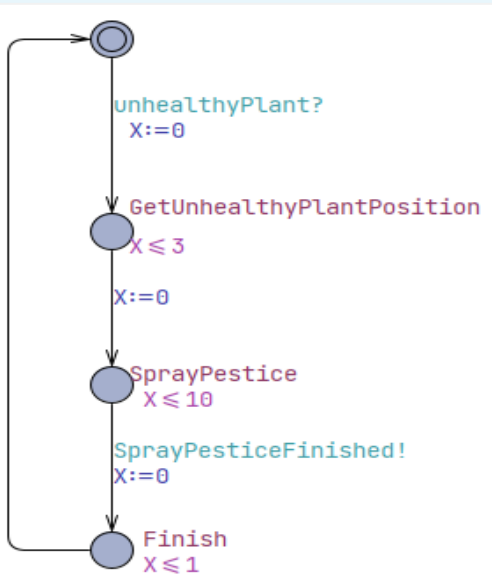
Plant Observer



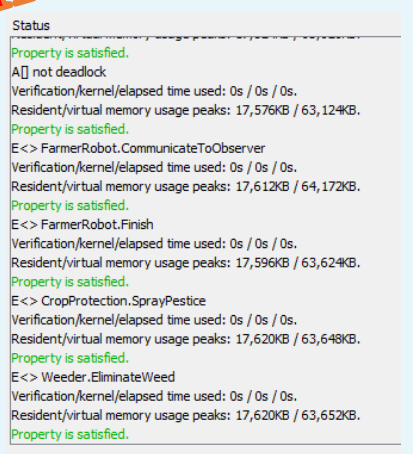
Weeder

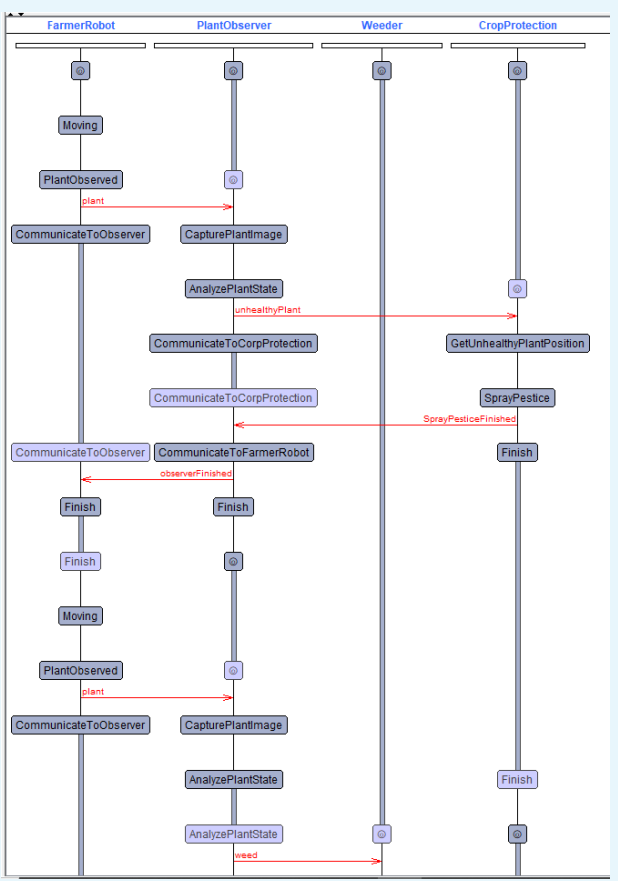


Crop Protection



Verification





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