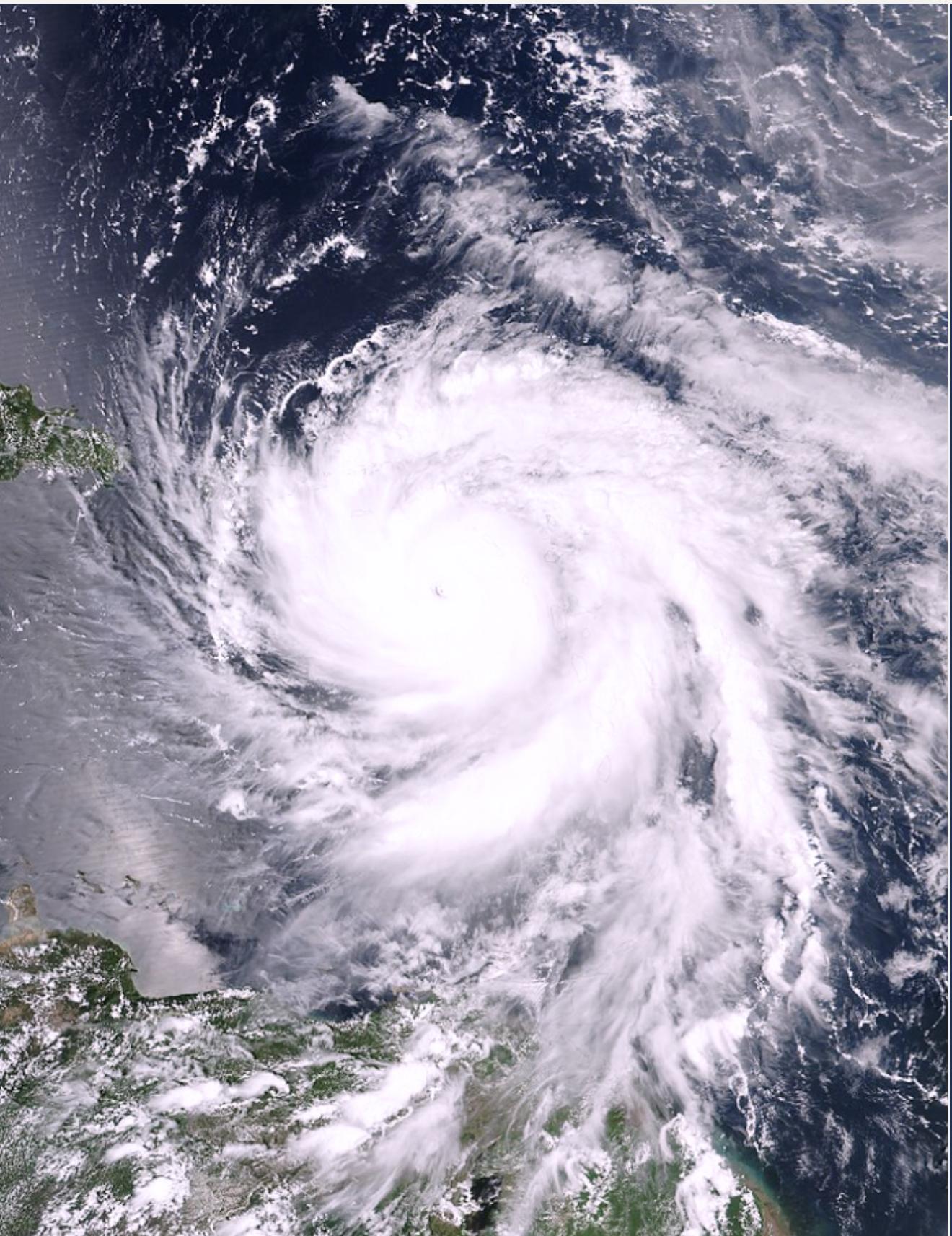


TEAM - 2

Satellite Image Recognition

Identifying damages caused by Hurricane
Maria





Content

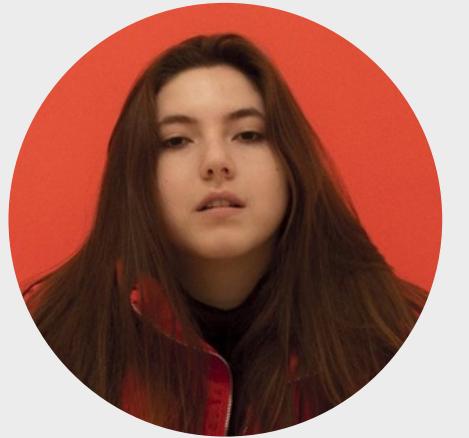


01

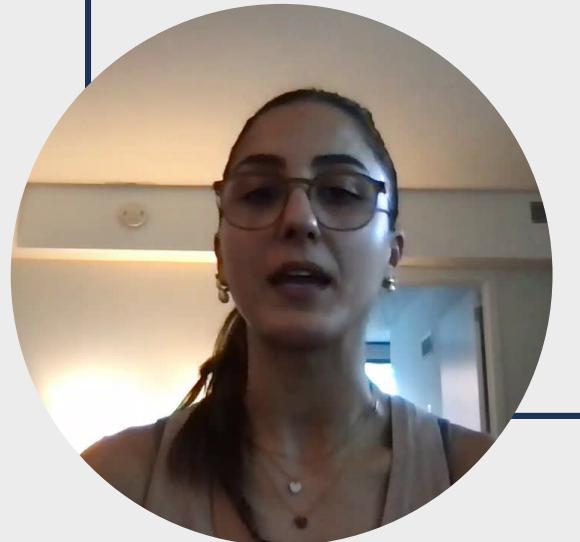
- Our Team
- Introduction
- Challenges
- Actionable Insights/ Recommendations
- How to achieve them ?
- Performance Overview
- Model Insights
- Conclusion

Our Team

TEAM - 2



**Ella
Ponti**



**Raffaella
Ambrosio**



**Jasraj
Kaur
Gill**



**Lorena
Cruz**



**Pramanya
Guda**

Introduction

- Hurricane María made landfall in Puerto Rico on September 20, 2017
- Alternated between Category 4 and 5 storm
- Using satellite imaging (Maxar GeoEye-1)
- Identify damaged residential and commercial properties

Objective: Drive actionable insights/recommendations for future disaster relief





Challenges

1.

Time Constraints

2.

Desired MAP Score

3.

Image Annotation



Insights



- Prioritization of Aid and Resources
- Improvement in Building Resilience
- Enhancement of Disaster Preparedness and Response Plans

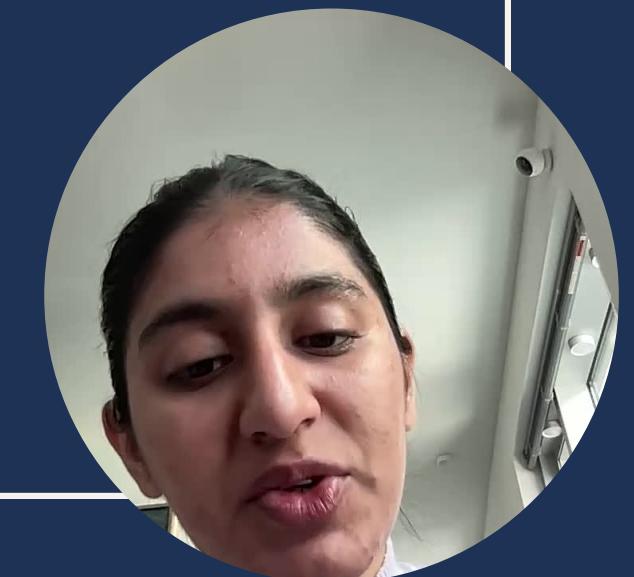


- Strategic Urban Planning and Land Use
- Community Engagement and Education

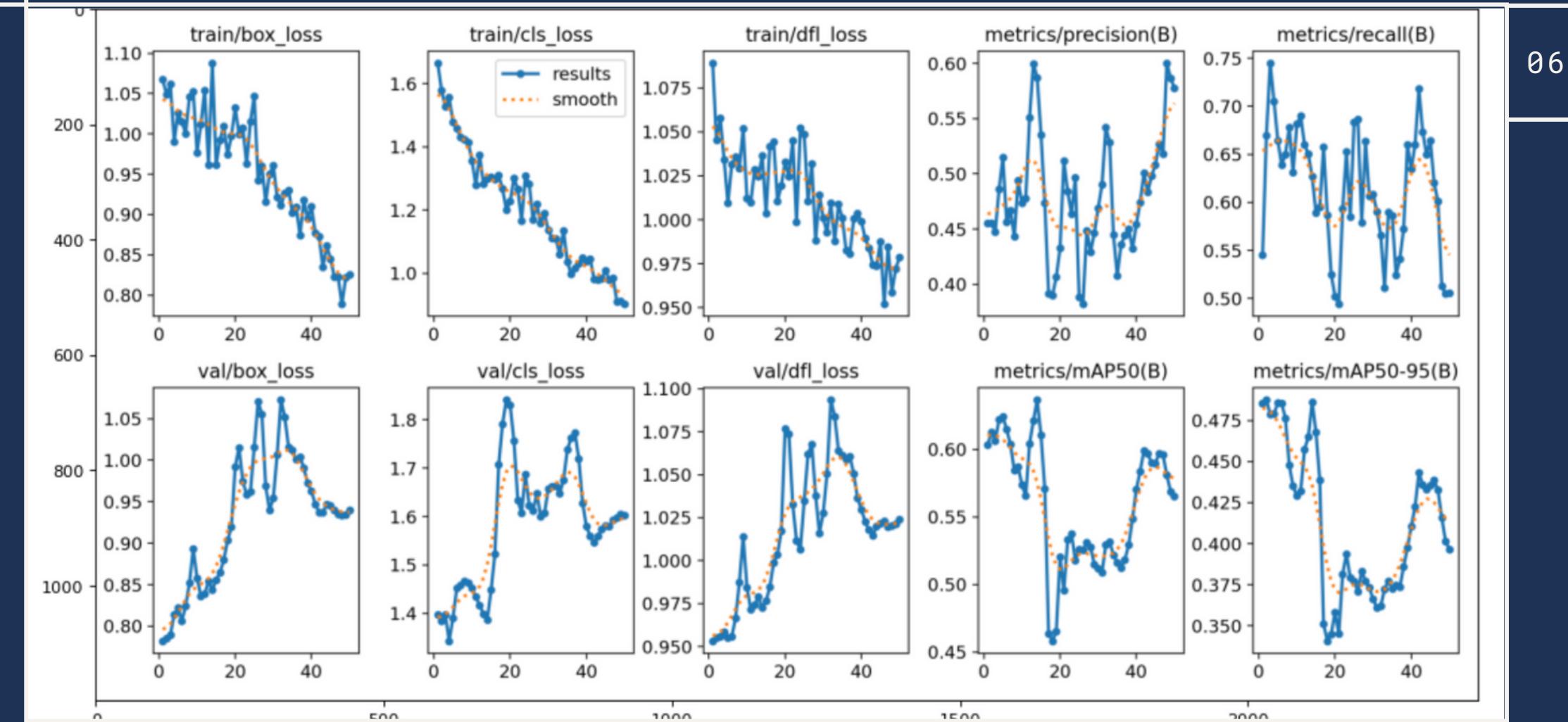
How to achieve them ?



- Data Integration & Collaboration
- Engage Building Experts
- Technology & Simulation
- Community-Based Programs
- Continuous Learning



- Loss Metrics Decline
- Validation Loss
- Precision and Recall
- mAP Scores
- Overfitting Watch



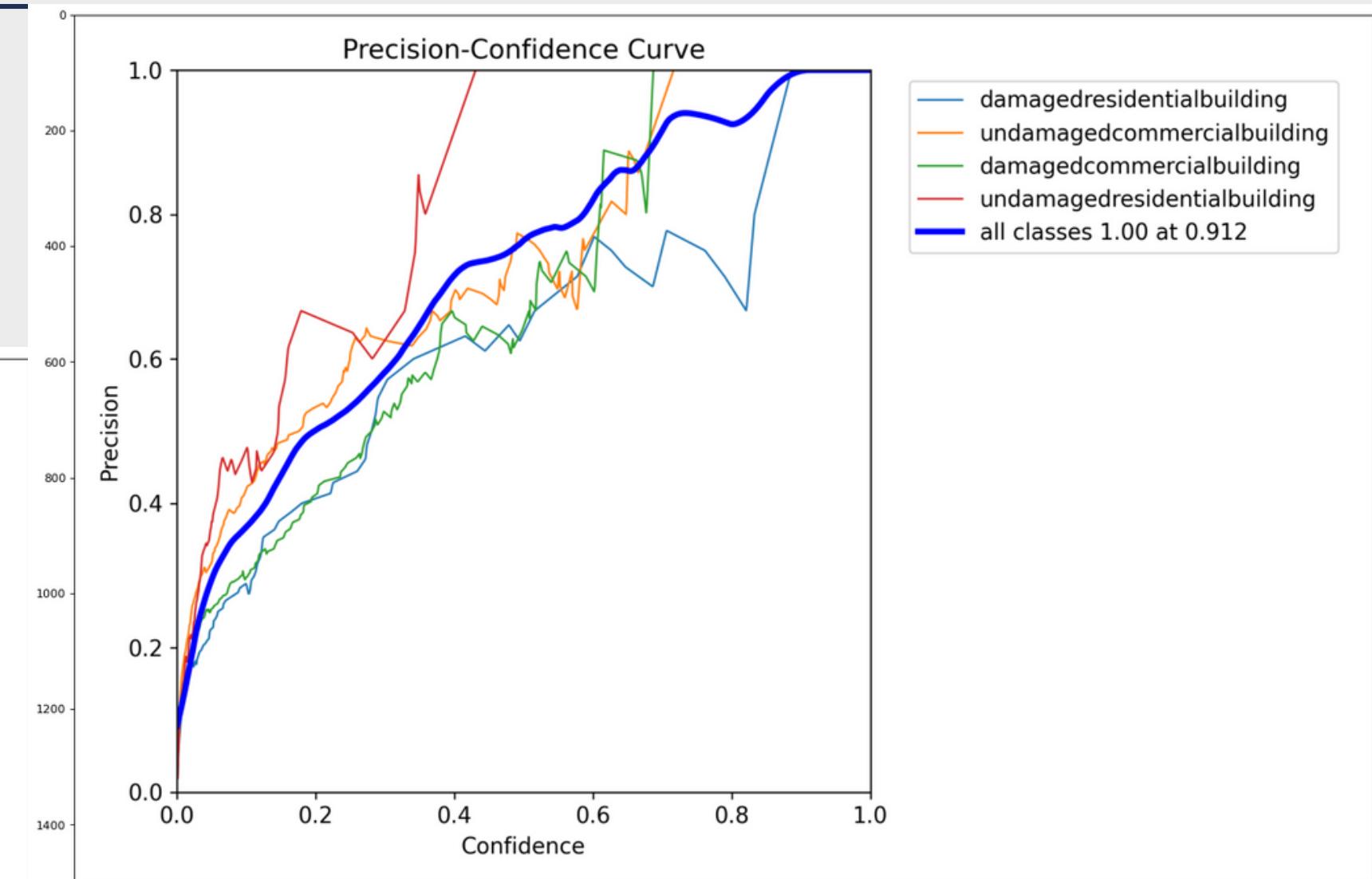
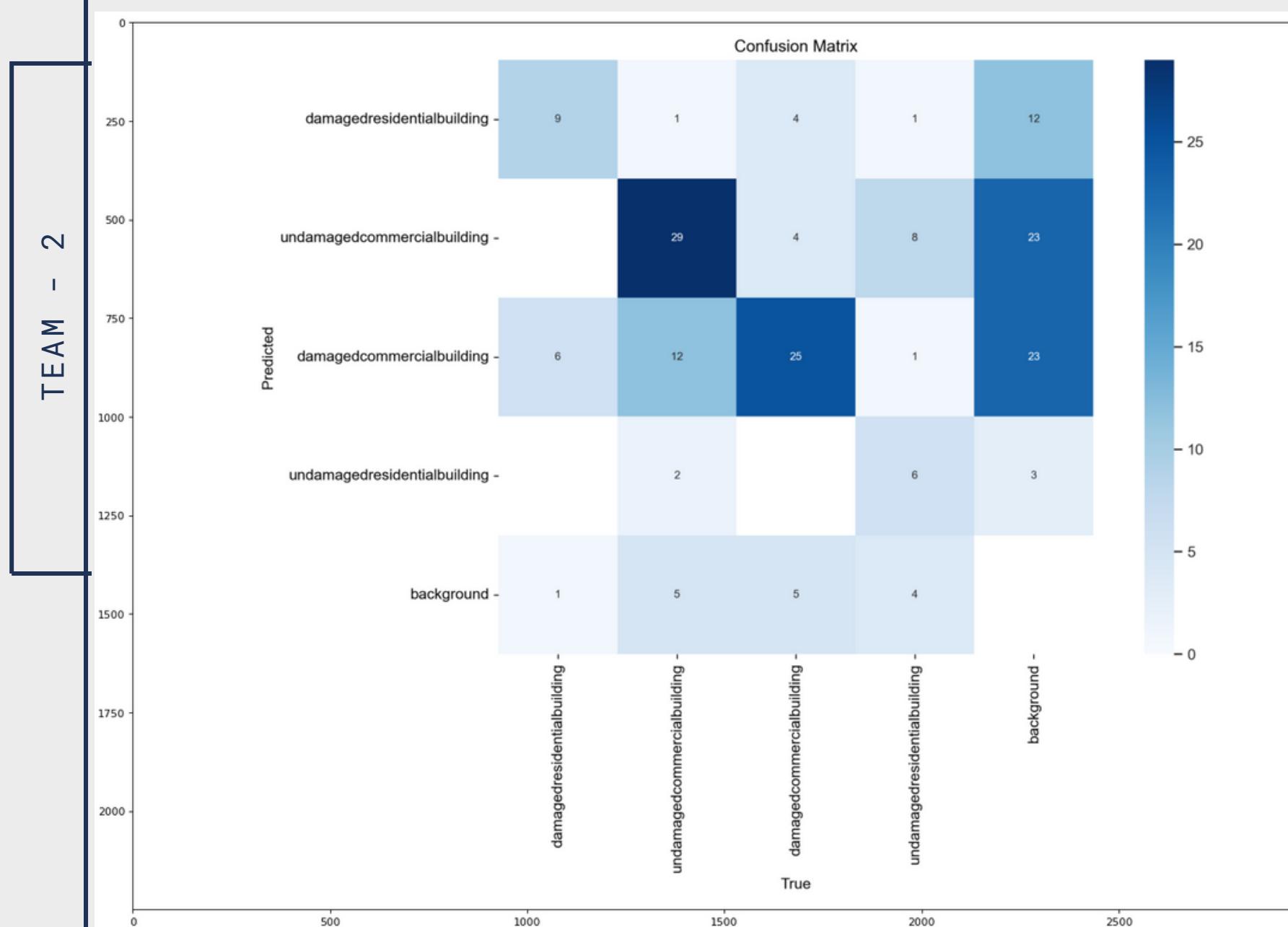
06

Performance Overview

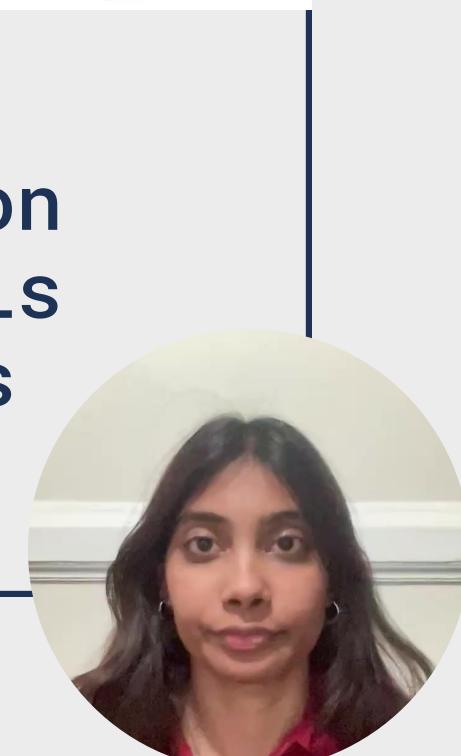
Model Insights

07

- Correct classification focus
- Error type identification
- Targeted improvement areas



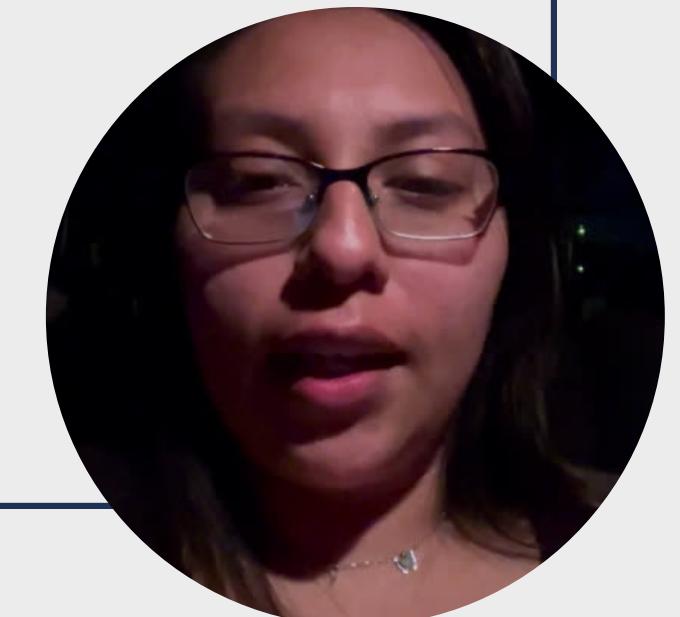
- High confidence precision
- Optimize threshold levels
- Minimize false positives

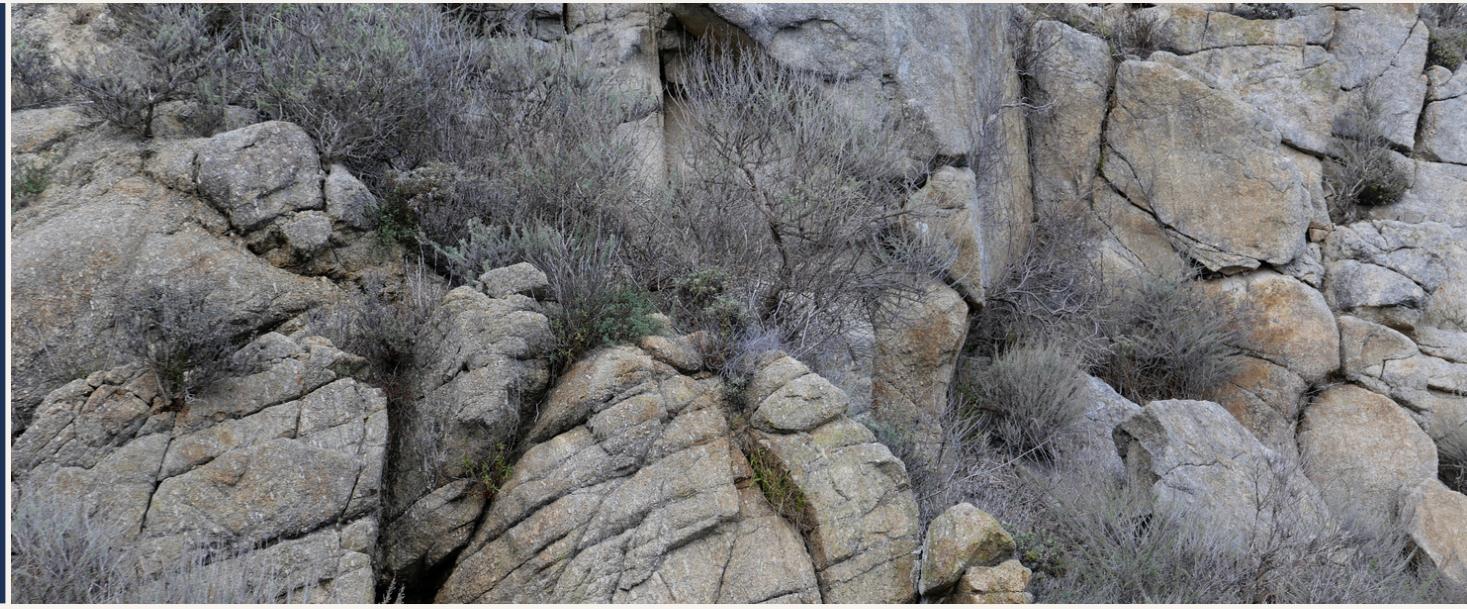




Conclusion

- Strong model, but room for improvement.
- Solid foundation in tool development.
- Challenging but insightful project with the time given and intense need for computing





09

**Thank
you!**

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