XINGU

EXPLAINING CRITICAL GEOSPATIAL PREDICTIONS IN WEAK SUPERVISION FOR SUSTAINABLE FINANCE

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Motivation

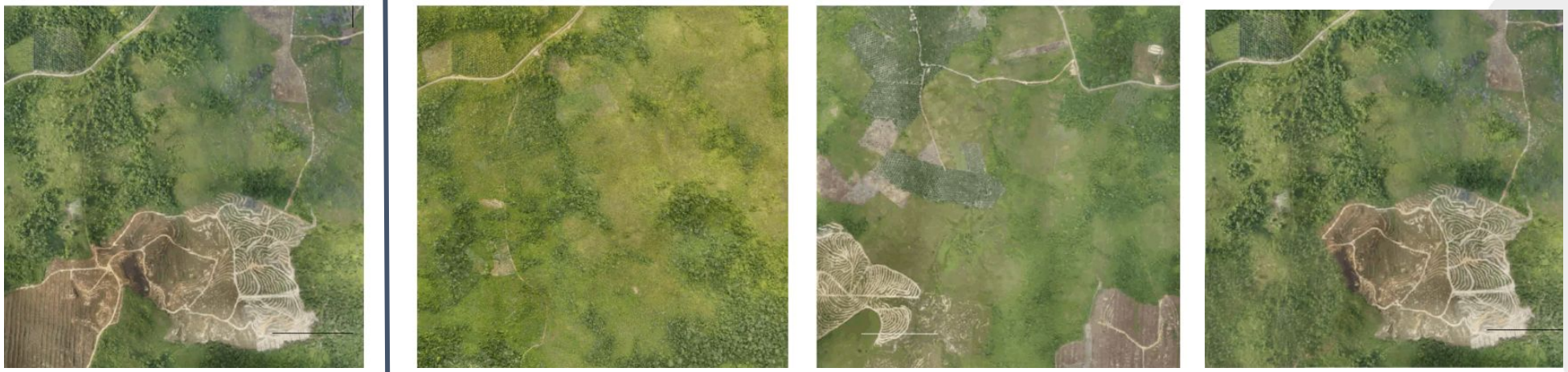
- Land-use is
- International stakeholders are paying landowners for forest conservation, if they can verify it [2]

www.reforestationworld.org

[2] UN-REDD Programme, www.goldstandard.org

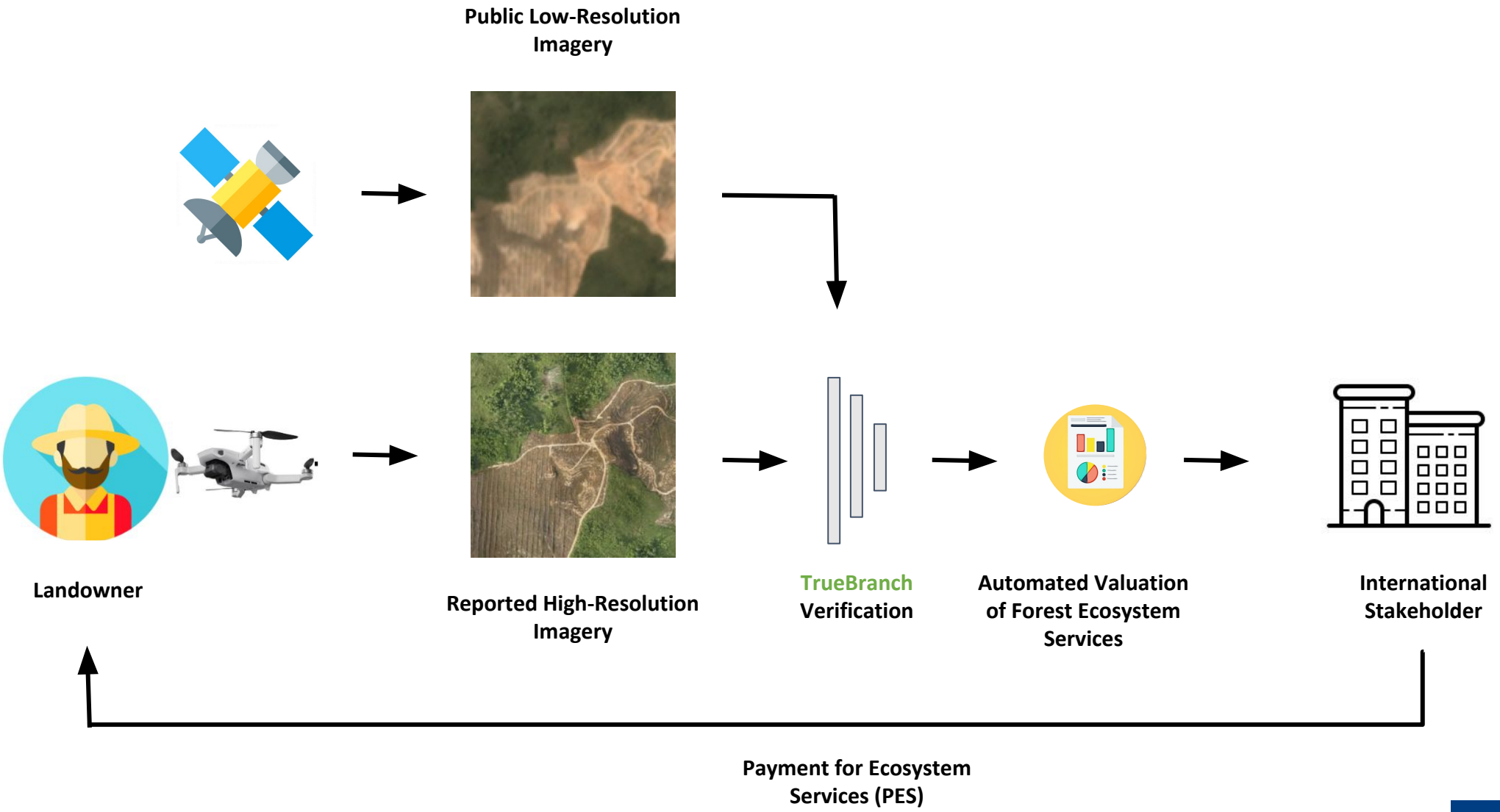
Challenge

- Opens up possibility of untruthfully reported imagery
- Attack vectors



Reported Land-Use	**true** time **true** location	**wrong** time **true** location	**true** time **wrong** location	modified image
Detected Forest Cover	**medium**	**high**	**high**	**high**

Approach - True Branch Verification System



Conclusion and Further Work

- Model with metric learning is able to distinguish truthfully reported imagery from untruthfully reported imagery
- Model evaluation on more training and testing data to ensure high reliability
- Protecting model from Adversarial perturbation
- Metric learning with images from different sources with different resolutions

Thank you very much for your attention

"Link to slides"

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