

AI Roof Classification Helps Dominica Rebuild Housing Resilience After Hurricane Maria

AI in the Public Sector · Good practice · Dominica

Quality score: 80/100

Evidence strength: Observational / pre–post

Summary

World Bank/GFDRR fused CNNs with post-disaster drone and satellite imagery to classify roof type and material for 8,345 Dominica and Saint Lucia buildings, reaching F1 scores of 0.92–0.93, to help target hurricane-vulnerable housing for resilience investment.

Key dimensions

Dimension	Score
Evidence of impact / measured public value	2/3
Transparency, fairness & accountability	3/3
Transferability / demonstrated replication	3/3
Scalability beyond pilot	2/3
Governance, capability & sustainability	2/3

Evaluated by C-NAPSE

Data sources

[C-NAPSE web research](#) — accessed 2026-09-09

[World Bank Group – Global Facility for Disaster Reduction and Recovery \(GFDRR\), Digital Earth Partnership, with the Government of the Commonwealth of Dominica and the Government of Saint Lucia](#) — accessed 2026-09-09

[World Bank GFDRR – Digital Earth for Resilient Infrastructure and Housing in the Caribbean](#) — accessed 2026-09-09

[arXiv preprint: Fusing VHR Post-disaster Aerial Imagery and LiDAR Data for Roof Classification in the Caribbean](#) — accessed 2026-09-09

[GFDRR/World Bank code repository: caribbean-rooftop-classification](#) — accessed 2026-09-09

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