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Low-Cost IoT Solutions for Environmental Monitoring in Urban Slums: A 2010 Replication Study in Mauritius

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Abstract

This study builds upon previous research conducted in Mauritius in to explore low-cost Internet of Things (IoT) solutions for environmental monitoring in urban slums. A mixed-methods approach was employed, including surveys, interviews with stakeholders, and an analysis of existing IoT solutions to assess their applicability and effectiveness in urban slums. Data were collected from 50 randomly selected urban slum areas across Mauritius. The findings indicate that a combination of low-cost sensors (costing up to $10\,each) \, for\, air\, quality\, monitoring\, , water\, contamination\, detection\, , \wedge \, temperature\, regulation\, can\, be\, successfully$ \hat{\theta}=argmin{\theta}\sumi\ell(yi,f\theta(xi))+\lambda\lVert\theta\rVert2^2$, with performance evaluated using out-of-sample error.

Keywords: *African Geography, IoT, Sensing Networks, Low-Cost Technologies, Urban Informatics, Sensor Fusion, Data Analytics*

ABSTRACT-ONLY PUBLICATION

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