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Title: An exploratory study of the use of Geographic Profiling in Theft from Motor Vehicle Investigations in Bridgetown, Barbados.

Abstract

This study investigates the role of artificial intelligence (AI) software in enhancing the operational application of geographic profiling to address theft from motor vehicles in Bridgetown, Barbados. By situating the research within emerging frameworks of algorithmic policing and spatial criminology, the study explores how AI-driven tools can refine the detection of offender mobility patterns, predict high-risk zones. Empirical data were drawn from interviews with policemen and crime analysts experienced in AI-assisted spatial crime analysis, alongside a focused case study of vehicle-related theft in Bridgetown. The findings reveal that AI software significantly augments the analytical power of geographic profiling by automating data integration, enhancing predictive accuracy, and enabling dynamic visualisation of crime patterns. However, the research also highlights the need for specialised training in AI systems, geospatial technologies, and environmental criminology to ensure meaningful implementation. While geographic profiling remains a critical investigative framework, its effectiveness is considerably amplified when integrated with AI software capable of processing complex spatial-temporal data. The study concludes that such integration holds transformative potential for evidence-based policing strategies in small-island jurisdictions like Barbados.

Keywords: Artificial intelligence, AI software, geographic profiling, spatial crime analysis, theft from motor vehicles, predictive policing, Barbados, offender typologies.