GEOSPATIAL IDENTIFICATION OF POVERTY AREAS: MACHINE LEARNING APPROACH FOR DSWD IMUS

Undergraduate Thesis
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ABSTRACT

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The researchers initiated this study in January 13, 2024 and conducted it in April 12, 2024 at department of social welfare and development . The researcher applied the Descriptive research design in conducting the study. Descriptive research design involves systematically observing, documenting, and analyzing characteristics or phenomena within a population without influencing or altering them. it aims to provide detailed portrayal of the subject under study. In creating this thesis, the proponents used the Agile Software Development. it refers to the software development methodologies centered round the idea of iterative development. This study proposes a poverty mapping utilizing Geographic Information Systems (GIS) integrated with machine learning techniques. PHP and JavaScript programming language. By harnessing the power of GIS, survey, and census data at varying spatial resolutions, this system offers a dynamic and detailed visualization of poverty rates. Through the integration of machine learning algorithms and geographical data, such as satellite images, the system provides granular insights into the socio-economic dynamics underlying poverty. A case study of Imus City, Cavite, demonstrates the efficacy of this approach. The Department of Social Welfare and Development (DSWD) in Imus can utilize this system to pinpoint areas of poverty and identify specific needs and vulnerabilities within those areas. By tailoring interventions based on these insights, DSWD can address the root causes of poverty and promote sustainable development effectively. This research highlights the importance of technological innovation in enhancing poverty mapping efforts, ultimately leading to more efficient resource allocation and better-targeted social welfare programs.